

Journal of the Association of American Medical Colleges

Volume 5

NOVEMBER, 1930

Number 6

CONTENTS

	PAGE
Address of President. <i>William Darrach</i> - - - - -	323
Medical Education in Norway. <i>J. LeRoy Conel</i> - - - - -	327
Report on Visit to Meeting of General Medical Council, London, May 26 to June 1, 1930. <i>J. Stewart Rodman</i> - - - - -	346
System in the Presentation of Subject Matter. <i>George B. Hassin</i> - - - - -	357
Editorials - - - - -	361
News Items—College - - - - -	363
" " —Personals - - - - -	367
" " —General - - - - -	369
Deaths - - - - -	370
Abstracts - - - - -	371
New Books - - - - -	383
Index - - - - -	385

Published bimonthly, January, March, May, July, September and November, at 25 E. Washington St., Chicago, Illinois, by the Association of American Medical Colleges. Subscription Price, \$3.00 per year. Single Copies, 75 cents.

Entered as second class matter at the Post Office, at Chicago, Illinois, under the Act of March 3, 1879.
(Continuing the Bulletin of the Association of American Medical Colleges)

New Successes

AREY'S EMBRYOLOGY MAXIMOW'S HISTOLOGY
AMERICAN ILLUSTRATED MEDICAL DICTIONARY

See Saunders' Announcement—Just Inside

ASSOCIATION OF AMERICAN MEDICAL COLLEGES

OFFICERS AND COMMITTEES FOR 1930-1931

President: MAURICE H. REES, Denver.

Vice-President: C. C. BASS, New Orleans.

Secretary-Treasurer: FRED C. ZAPFFE, 25 East Washington St., Chicago.

EXECUTIVE COUNCIL

BURTON D. MYERS, Chairman, Bloomington, Ind.; MAURICE H. REES, Denver; ALEXANDER S. BEGG, Boston; E. P. LYON, Minneapolis; IRVING S. CUTTER, Chicago; WILLIAM DARRACH, New York; FRED C. ZAPFFE, Chicago.

MEMBERS

Alabama

University of Alabama, School of Medicine, University.

California

College of Medical Evangelists, Loma Linda and Los Angeles.

Stanford University School of Medicine, San Francisco and Stanford University.

University of California Medical School, San Francisco and Berkeley.

Canada

McGill University Faculty of Medicine, Montreal.

University of Manitoba Faculty of Medicine, Winnipeg.

University of Toronto Faculty of Medicine, Toronto.

Colorado

University of Colorado School of Medicine, Denver.

Connecticut

Yale University School of Medicine, New Haven.

District of Columbia

Georgetown University School of Medicine, Washington.

George Washington University Medical School, Washington.

Howard University School of Medicine, Washington.

Army Medical School, Washington (Honorary).

Navy Medical School, Washington (Honorary).

Georgia

Emory University School of Medicine, Atlanta. University of Georgia Medical Department, Augusta.

Illinois

Loyola University School of Medicine, Chicago. Northwestern University Medical School, Chicago.

University of Chicago (Rush), Chicago.

University of Illinois College of Medicine, Chicago.

Indiana

Indiana University School of Medicine, Bloomington and Indianapolis.

Iowa

State University of Iowa College of Medicine, Iowa City.

Kansas

University of Kansas School of Medicine, Lawrence and Rosedale.

Kentucky

University of Louisville School of Medicine, Louisville.

Louisiana

Tulane University of Louisiana School of Medicine, New Orleans.

Maryland

Johns Hopkins University School of Medicine, Baltimore.

University of Maryland School of Medicine and College of Physicians and Surgeons, Baltimore.

Massachusetts

Boston University School of Medicine, Boston. Medical School of Harvard University, Boston. Tufts College Medical School, Boston.

Continued on Third Cover Page

GES

ver;
Chicago;

Chicago,
School, Chi-

ago,
cine, Chi-

, Illinois

Medicine

Medicine

of Med-

Medicine

Medicine and
, Bah-

Boston
Boston.



JOURNAL
OF THE
Association of American Medical Colleges

Volume 5

NOVEMBER, 1930

Number 6

Presidential Address*

WILLIAM DARRACH

Dean Emeritus, School of Medicine of Columbia University

The amount of time and energy devoted to the problems of medical education in the last two decades has been very great. It may be assumed that such efforts have been worthwhile because of the very generous financial support it has received from university trustees, foundations, and generous men and women of means. If the various gifts for new buildings, for increased endowments, for special problems of research and for other specific studies were all added together the total would be astounding. There is hardly a medical school in the country whose physical plant and annual budget is not far greater than it was twenty years ago. Such munificent support is indeed a vote of confidence in what medical educators have done and are doing. At the same time it should be looked upon as a definite and serious responsibility of these same individuals.

Much has been accomplished by individual teachers in the various schools, by committees of the different faculties, by joint committees of this and other associations. Thoughtful suggestions and wise action has come from the Council on Medical Education of the American Medical Association. The Commission on Medical Education, which was initiated by this Association, has already accomplished a good deal. It is hoped that its final contributions, before it closes its books, will be of real help in this field.

After such a superficial survey of the recent past we might assume a satisfied smile and say that all is well. I think we can honestly be proud of what has been accomplished. But after all, are we doing all that we might do? Are we not duplicating effort here and are we not missing opportunities there? Most of us as we finish a day, or a term, or a year, or give up a job, look back and see where we could have improved our methods in one way or another. So perhaps you will bear with the reminiscent thoughts of one who after eleven years of rather concentrated effort is leaving the field of general medical education to resume a minor post in a special field.

*Read at the Forty-first Annual Meeting of the Association held in Denver, Oct. 14-16, 1930.

Progress in medical education has depended in the past and will depend in the future on many forms of endeavor. A certain individual thinks out a new method of instruction and tries it on his students. Others in his field hear of it from him, from his colleagues, and from his students, and they adopt it or modify it. The plan is presented at one of our meetings or at the meetings of the Council on Medical Education and published in the transactions and thus, if approved, becomes more universal.

Our Association has appointed many committees on this and that. If we summed up the total results of all such committees and then marked them as we would our own examination papers, how would we grade them? If we looked merely at results our grades would probably be higher than if we looked only at methods. A problem is brought up at a meeting of the Association. If well thought of, a Committee is appointed, perhaps at the time or possibly some weeks later. After a certain interval, the chairman writes to the other members reminding them of their duties. Later he gets letters from some of them giving their general impressions with perhaps one or two definite ideas. Later he sums these up adds his own, or writes out his own report. This may be sent out to the Committee before the annual meeting so that the others may think it over beforehand. At the annual meeting they get together in a corner, amend it somewhat or confirm it as written. It is then read, perhaps discussed and accepted as read and the Committee discharged. Is this a fair picture of most committee efforts? Quite unfair of some of them, I grant you, for we have had committee reports which represent many hours of hard united labor and which have proved to be of great and lasting value. But how many can anyone of you recall at this minute? Among those I can recall as being most helpful, three have been from men who had no personal experience in teaching medicine—Capen, Hawkes and Flexner. Our meetings have been quite well attended, but have we made the best use of our time and abilities at these meetings? I think we all realize that what we bring home each year that has proved of greatest value was gained not in the formal papers and discussions but at the informal conversations at the breakfast or lunch table or possibly in the later "off the record" gatherings.

But enough of destructive criticism. What shall we do about it?

At present there are four formal national groups whose main concern is medical education. Our own Association, the Council on Medical Education, the Federation of State Licensing Boards, the Commission on Medical Education.

The latter contains some of the wisest educators in the country both medical and non-medical. Their Director of Study has devoted all his time and energy for a period of almost five years to the collection and digestion of a tremendous amount of factual knowledge bearing on the question. Through its sub-committees many details are being worked out in an orderly manner. Before long this work will be completed and ready for the use and application of the medical schools, collectively—as represented in this Association, and individually, to be acted on as each deems best. Their work will then be finished.

Shall the other three groups continue as separate bodies, working independently with reduplication and overlapping or shall they unite into one organization or shall they, though remaining separate, have some joint committee through whom they may divide the field and yet work together with better cooperation?

I believe that the medical schools must continue collectively to be responsible for developing and planning general policies of the teaching of medicine; that the various schools must continue individually to apply such policies to their own peculiar local problem and to work out such details as seems wisest to them.

I believe that the Council on Medical Education of the American Medical Association should represent the general medical public in its relation to medical education; to study the needs of the profession and present such needs to the medical schools with whatever remedies they may care to suggest.

I believe that the Federation of State Licensing Boards should continue their function of determining the fitness of our graduates to practice medicine in their states by whatever means they think best, maintaining their present open minded attitude of cooperation and avoiding the early attempt to say how the schools should accomplish their function.

I believe that we could all fulfill our functions better if there were created a joint committee whose only function was to correlate the individual activities of three bodies.

Is there any different machinery by which our own association might improve its results?

At present practically all the medical schools are included in the Association. The percentage of schools represented at each meeting is unusually high. The president changes each year and is practically merely a presiding officer. The Executive Committee is a more permanent affair so that theoretically policies can be sustained over a considerable period. But although apparently a solid group, because of geo-

graphical distribution and of complexity of other duties it must actually remain a number of individuals. They can only unite in common efforts a few days out of each year.

The Association has depended during its lifetime, and probably will continue in the future to depend very largely on its Secretary for its continuity of effort and for its effectiveness. We have been very fortunate in having been able to have the same man throughout these years, who has most generously given much of his time and energies on a purely nominal salary. But, I believe the time has come when a change should be made and that the objects and possibilities of the Association more fully realized by having as Executive Officer a man whose whole time and energies can be devoted to this work. He should have not only a proper salary but sufficient assistance to do what can be done. He should be young enough to have the enthusiasm so necessary for this work, he should be old enough to have had real experience in the teaching of medicine, he should be wise enough to see the problems and to suggest solutions; he should be diplomatic enough to win our confidence and able to refresh our enthusiasm. Such a man may be hard to find but I believe there is a real future for the right one.

With such an organization we might more fully live up to our responsibilities than we can at present. We might even reach the point where we could take up such a challenge as Dr. Rypins expressed last year:

1. First, is this Association, in accepting and maintaining in its membership a given medical School, prepared to offer reasonable guarantee to the examining boards that such membership means the maintenance of proper educational standards in that school?

2. Second, does membership in this Association imply with reasonable assurance that the component faculties will sedulously require and maintain proper educational standards for admission?

3. Third, does membership in this Association imply that each of its constituent faculties, no matter how varied their curricula, is maintaining a professional educational standard adequate to prepare its graduates for the proper care of the sick?

4. Lastly, is this Association prepared not only to establish and maintain educational standards, but to create the necessary administrative machinery for the study and direction of this important work?

As I read over each of these four questions I am in all honesty compelled to answer "at present—no."

Medical Education in Norway

J. LEROY CONEL

Professor of Anatomy, Boston University School of Medicine

Little has been published in the United States regarding medical education in the Scandinavian countries, Norway, Sweden, Denmark, Finland and Iceland. All of these countries have universities in which at least some training in medical sciences is given, if not the entire course of study. In his book regarding medical education in Europe, Flexner dismissed the Scandinavian schools with a few remarks, stating that they are similar to the German schools. They do resemble the latter in many respects, but there are sufficient differences to warrant further description of them.

While conducting a piece of research in the University of Oslo during the summer of 1929, the writer made some investigation into the organization and operation of the medical school, and was very favorably impressed by the soundness of the methods used, and the thoroughness of the application of them to medical instruction. With slight variations, the same general plan is used in the other Scandinavian countries.

There is only one university in Norway. It is located in the central part of Oslo, and its official name is the Royal Frederiks University. All instruction higher than the secondary schools is given here, with the exception of a few courses in biology which are given in the Museum of Natural History at Bergen. Some knowledge of the organization and administration of the entire university is necessary to an understanding of any one part of it.

Organization of the University

The University of Oslo consists of the following five faculties, which correspond to our colleges or schools: (1) Theology; (2) Law; (3) History - Philosophy; (4) Mathematics - Natural Science; (5) Medicine.

Each faculty is subdivided into departments or institutes. Each department or institute has a chief, who is usually the senior professor in the department. Each faculty has a dean, and the combined faculties are headed by a rector, the highest official in the university. All the faculties are located on the same campus, consequently there is no duplication of departments of instruction.

The teachers are of three ranks only, professors, docents, and assistants. The teachers of the rank of docents are also called prosecutors, amanuenses, or stipendiaries, according to the department in which they teach. The docents, etc., and assistants are not privileged to attend meetings of the faculty, and have no voice in the government of the university.

Throughout the entire organization of the university, the professors constitute the governing body. In each department or institute all important matters must be decided by the faculty, i.e., by the professors in that department or institute. Likewise, all questions of importance which may arise in a faculty (college) must be decided by the professors, and those pertaining to the university as a whole must be decided by the university faculty, i.e., by all the professors in the university in meeting assembled. Routine affairs and unimportant matters are attended to by the heads of departments, by the deans and the rector without consulting the faculty. In order to expedite administration, there is also an executive committee called the Academic Kollegium consisting of the rector, who is chairman, and the deans. But in all things, the heads of departments, the deans and the rector are subject to the decisions of the faculty.

The Rector

The rector is elected by all the professors of the university and the head of the university library in meeting assembled. Any professor may nominate a candidate, but usually it is informally arranged before the meeting that some one professor will nominate a certain man. The rector must be a professor in the university who has held that title for five years or more and must be at least thirty years of age. If two or more candidates are nominated, a written ballot is taken, and the candidate is elected who receives a majority vote of all the professors, present and absent.

The rector holds office for three years, and may be reelected for a second term, but not for a third. He may or may not teach, as he desires, while holding office. Upon his election, he automatically becomes dean of his own faculty.

The rector presides at meetings of the university faculty, and attends to affairs of a general nature pertaining to the entire university. He must execute the decisions of the Kollegium, and be responsible for academic discipline.

The rector may be present at any meeting of the five faculties, but has a vote only in meetings of his own faculty.

The Kollegium

This is an executive committee to transact the routine work of the university, and consists of the rector, who is chairman, and the other four deans. It is responsible to the university faculty. Regular meetings are held for the transaction of business.

Faculties

Each faculty (college) consists of the professors. They elect a dean from their own number, who serves for not more than two terms of three years each. The dean attends to all routine affairs pertaining to his faculty, but is subject to the rulings of the faculty in everything. Each faculty also elects the heads of departments and institutes contained within that faculty. Such heads are usually senior members of the faculty in their respective divisions.

The budgets for the running expenses (not including salaries) of each department are made out by the head of the department after conference with all the teachers, and is sent by him to the rector. The rector compiles a budget for the entire university, incorporating in it the figures submitted by the various departments, and send it to the Parliament. The members of Parliament must always approve the budgets of the university and the state hospital insofar as the running expenses are concerned, but they may refuse or postpone any items for unusual expenditures, such as a new building. Generally, Parliament acts very favorably toward the university.

The professors, in meetings assembled, transact all business of their faculty. A majority vote of those present is decisive. They decide all matters pertaining to the curriculum, and all courses of study must be submitted to them for approval. Questions for examinations of students are proposed by the professor in charge of each course, but the questions must be submitted to the entire faculty for approval.

All teachers of the rank of docent and assistants, as well as technical assistants, dieners, janitors, etc., within any faculty are appointed by that faculty upon recommendation by the heads of the departments or institutes. The name of each candidate nominated for a position by the faculty is sent to the Kollegium, which in turn transmits the name to the State Secretary of Education, who enrolls the candidate as a state employee, and notifies him of his appointment.

The docents, prosecutors, amanuenses, stipendiates and assistants do not participate in the meetings of the faculty, but may be called into the meetings when any questions pertaining to examinations or courses of study are being discussed.

All teachers of the rank of docent must be graduates of some university approved by the faculty, and must have a graduate degree. They may retain this rank throughout their teaching career, but if they possess the doctorate from some approved university, they may apply for a position as professor whenever any such position is advertised as explained below. They are not merely promoted to the rank of professor, but must compete with all other applicants for the advertised position.

The first and second assistants must also have graduate degrees from some approved university, and they are eligible for promotion to the rank of docent. Promotions of assistants occur only when there are vacancies to be filled, and are made by the faculty upon recommendation by the heads of departments and institutes. Assistants do not have permanent tenure of office, but retain their positions only at the will of the head of the department or institute in which they are teaching.

Appointment of Professors

The manner of appointing professors in all faculties of the university is as follows: The position is advertised by the State Secretary of Education. Any person who has a doctorate from an approved university may apply for the position. The Kollegium and the faculty concerned appoint a committee of three professors, two from the faculty concerned and the third a professor in a university of some neighboring country, usually Sweden or Denmark. All applications are referred to this committee. Each application must be accompanied by a full list of the candidate's qualifications and a copy of each of his publications. The committee selects from the applicants those whom it favors for the position, usually giving preference to Norwegians who are well qualified, and submits them to a contest.

Each candidate thus selected is required to give two or three public lectures upon subjects which are assigned by the committee and one lecture upon a subject chosen by the candidate. After all the lectures have been delivered, the committee chooses three of the candidates, and arranges their names in a list in accordance with its preference, the name of its first choice heading the list. The list is sent to the rector for his signature, and he transmits it to the Secretary of Education. The latter submits the list to the State Parliament, which elects a candidate from the list by a majority vote. Usually the person whose name heads the list is elected, but not always. The Secretary

of Education enrolls the elected candidate as a state employee, and notifies him of his appointment.

A professor in the university is a most highly respected person, and holds a position in the highest ranks of society. Because of keen competition for the position as professor and the severe tests for selection, those chosen are usually persons possessing a high degree of intellectuality, culture and refinement.

Once appointed, all professors and docents (or equivalents) retain their positions for life, or until they reach the age of retirement. The docents may be elected as professors, of course. A professor, docent, prosecutorial, or amanuensis can be discharged from the university only after trial and conviction in the courts for committing some major offense against the state law. There is no question of academic freedom in Norway, for no teacher can be removed from his position because of anything he may say or teach. There is no dismissal on record in the 115 years history of the university. Likewise, there has been no abuse of this protected tenure of office, and it is believed that both the teaching and research work of the teachers would suffer in the absence of such protection.

The age of retirement is 70 years for professors and 65 years for all other teachers. A professor may retire with full pension at the age of 65, if he desires to do so. Upon retirement, each teacher receives an annual pension amounting to 50 per cent of his salary at the time of retirement. In the event of death at any time before or after retirement, the widow receives a pension.

Salaries

All teachers of similar rank are on the same salary basis. The rector and deans receive the same salary as do the other professors.

Professors: 9,000 kronen per year for the first three years; an automatic increase of 900 kr. at the end of every third year to a maximum salary of 11,700 kr. per year.

Docents (stipendiates, prosecutorial, amanuenses): 5,000 kr. per year for the first three years, and an automatic increase of 500 kr. at the end of every third year to a maximum of 8,000 kr. per year.

First Assistants: 3,600 kr. per year for the first three years, and an automatic increase of 360 kr. at the end of every third year to a maximum of 4,680 kr. per year.

The salaries are paid by the state, and they fluctuate directly with the cost of living, in order that the teachers may receive compensation

sufficient to enable them to live in accordance with a liberal standard at all times regardless of economic conditions. The salaries of the professors compare favorably with the salaries paid to men occupying positions which require creative ability and qualities of leadership in the business world and in the other learned professions. On the basis of purchasing power the maximum salary (11,700 kr.) paid to a professor in Norway is equivalent to a salary of \$6,000 in the United States.

All teachers may increase their incomes by doing work outside their regular teaching, providing their duties in the University do not suffer as a consequence. They may even use their private laboratories in the university as professional offices for receiving clients, as in the case of the practice of law or medicine.

All university teachers, as well as all other state employees, must pay 10 per cent of their salaries to the state for the pension fund.

**Faculty of Medicine
Organization of Laboratory Instruction
Anatomy**

The main divisions of instruction in the laboratory subject are anatomy and physiology. The Institute of Anatomy occupies four floors of the left wing of the main university building. The allotted space is inadequate for the teachers' offices and laboratories, and for handling the number of students taking the courses in anatomy. There is a large study room for use of the students where they can examine bones, dissections and embryological material, and a fairly large museum containing various kinds of specimens of normal and pathological anatomy. On the fourth floor is one of the finest and most complete anthropological collections in the world, consisting of skeletons collected from all parts of Norway.

Gross anatomy is taught by means of lectures and demonstrations, as well as by dissection of the human body by the students. Material for dissection is scarce, hence it is usually necessary to place six to eight students to one cadaver. Microscopical anatomy is presented in the customary way by means of lectures and the study of sections of fresh and prepared specimens.

The staff of the Institute of Anatomy is as follows: 2 professors (the senior is chief); 2 prosector; 1 first assistant; 3 student assistants; 2 technicians; 1 artist; 1 préparateur; 1 diener.

Physiology and Biochemistry

The Institute of Physiology occupies a large building of its own.

There is plenty of room for the staff, for special students, and for the instruction of undergraduate students. The institute is splendidly equipped with modern apparatus for teaching and research in physiology and biochemistry, which is taught in this department. The director has a large, well-furnished office and a large private laboratory. There are several small laboratories for special research, a large dark room, two well appointed operating rooms with bath room adjoining, a large library, a student laboratory for experiments in physiology and another for biochemistry, and a large lecture room. On the top floor of the building is a spacious animal house in which are kept various kinds of animals for research and student experimentation.

The teaching staff consists of two professors, two amanuenses and one stipendiate. The professors and amanuenses devote their entire time to the work of the institute, but the stipendiate is a practicing physician who lectures only.

Physiology and biochemistry are taught by means of lectures, demonstrations, and laboratory experiments performed by the students, much in the same manner as in the better medical schools in the United States. There are practically no graduate students, excepting the reserve, assistant and candidate physicians in the hospital who are working for the degree of doctor of medicine. Young men to teach in the laboratory departments are recruited from the most promising among these who may desire to accept such a position. Difficulty is experienced, however, in interesting young men to teach in anatomy, physiology and pharmacology.

Organization of Clinical Instruction

All clinical instruction is given in the state and city hospitals, and the teachers are all members of the university staff. All professors must have the degree of doctor of medicine, and they are appointed in the same manner as all other professors. The professors are on a "full time" basis, but may engage in private practice. Their hospital duties require so much of their time, however, that they can usually do no more than consultation work. They receive large fees as they are always men of great ability and wide experience. The position as clinical professors are highly prized, and, therefore, the competition for them is keen.

The director of the state hospital is appointed by the Faculty of Medicine. He must have the degree of doctor of medicine, but he is not a professor in the university. He receives a salary of 11,700 kronen per year, and is provided with house, light and heat for 1500 kronen

per year. He may practice medicine if he so desires. He holds his position until he reaches the retiring age, 70 years, and receives a pension after retirement. He may retire at 65 years of age, and receive the full pension of 50 per cent of his salary. The director attends to all the business affairs of the hospital.

When a position as reserve physician is vacant, the candidates send their applications to the director of the state medical board, the highest medical official in the country. He examines the qualifications of the candidates and sends to the director of the hospital a list of three names of those whom he considers best fitted for the position. The director, after a conference with the professor in charge of the department concerned, then appoints one of these three candidates, usually the one whose name heads the list.

The assistant and candidate physicians are appointed by the director of the hospital after conference with the professor of each department concerned.

The head of the City Hospital is a nonprofessional man and is called the "Raadmann". He is appointed by the Common Council of Oslo, and conducts the administration of all city hospitals, sanatoria, etc. His position is permanent, and corresponds to that of director of the State Hospital.

The departments of instruction are as follows:

PATHOLOGY: 1 professor; 1 prosector; 1st assistant; 2nd assistant; 2 student assistants.

BACTERIOLOGY AND HYGIENE: 1 professor; 1 docent.

PHARMACOLOGY: 1 professor; 1 amanuensis; 1 student assistant.

INTERNAL MEDICINE: 2 professors (the senior is chief); 2 reserve physicians (do not live in hospital, and many have private practice); 1 assistant physician and 1 candidate physician (live in hospital, and are not permitted to have private practice).

SURGERY: 2 professors (the senior is chief); 2 reserve physicians (live in hospital and are not permitted to have private practice); 1 assistant physician and 1 candidate physician (live in hospital, and are not permitted to have private practice).

DERMATOLOGY: 1 professor; 1 reserve physician (can have private practice); 2 candidate physicians (live in hospital, and can not have private practice).

OPHTHALMOLOGY: 1 professor; 1 reserve physician (can have private practice); 1 assistant physician and 1 candidate physician (live in hospital, and are not permitted to have private practice).

NEUROLOGY: 1 professor; 1 reserve physician; 1 candidate physician.

ROENTGENOLOGY: 1 docent; 1 reserve physician; 1 candidate physician.

PEDIATRICS: 1 professor; 1 reserve physician (lives in hospital, can have private practice); 2 candidate physicians (live in hospital, no private practice).

EAR, NOSE AND THROAT: 1 professor; 1 reserve physician; 1 candidate physician; 1 assistant physician.

OBSTETRICS AND GYNECOLOGY, AND SCHOOL OF MIDWIFERY: 1 professor, 2 reserve physicians and 2 candidate physicians, live in hospital; can have private practice); 1 head midwife, 3 assistant midwives and 1 candidate midwife (live in hospital; cannot have private practice).

PSYCHIATRY: 1 professor; 1 reserve physician; 2 candidate physicians.

In all departments there are usually stipendiates, i.e., physicians who give a few lectures. Often the reserve physician acts as a stipendiate, and receives extra pay for this work.

No physician or surgeon is permitted to charge hospital patients for any service he may perform in the State or City Hospitals. Any resident in Norway, whether a citizen or not, can go to either of these hospitals and receive treatment free of charge, but is required to pay a small amount for board (two to three kronen per day), unless this is provided for by health insurance carried by the patient. The state and city of Oslo pay all expenses of the State and City Hospitals, respectively, including salaries of the teachers.

Sources of Revenue

Revenue is obtained in two ways:

(1) **HEALTH INSURANCE:** This is compulsory for all citizens of Norway whose annual income is less than 6,000 kr. The amount paid for such insurance is about 1% of the total income. The health insurance is handled by the District Sick Insurance Organization, a State organization.

(2) **TAXES** upon real estate, incomes, luxuries, etc. The income tax is usually from 15 to 20 per cent of the total annual income. It is higher in the cities than in suburban and rural districts.

Salaries

The salaries paid to the teachers in the State and City Hospitals are as follows:

PROFESSORS: 9,000 kr. per year for the first three years, with an automatic increase of 900 kr. at the end of every third year until a maximum of 11,700 kr. per year is reached. This is the same salary as is paid to all university professors. Often clinical professors are able to supplement their salaries by private practice to such an extent that their annual incomes are equivalent to those of the highest salaried business men in Norway. An income of 50,000 kronen per year is considered very high.

RESERVE PHYSICIANS: 5,400 kr. per year, less 1025 kr. for dwelling apartment. Meals are provided to the physician and his family by the hospital. The family lives in a hospital apartment.

ASSISTANT PHYSICIANS: 3,600 kr. per year, less a small amount for an apartment, as the family lives in a hospital apartment. Meals are supplied to the physician and his family by the hospital.

CANDIDATE PHYSICIANS: 2,270 kr. per year. The physician is given room and board in the hospital apartments, but his family is not provided with these accommodations.

The professors and reserve physicians are appointed under the same conditions as to tenure of office as the professors and docents in all the other faculties. The assistant and candidate physicians, however, may be discharged at any time by the director, after receiving the approval of the head of the department concerned. The professors are supposed to retire at the age of 70 years, and may retire at 65 years with full pension. All others must retire at 65 years, and upon retirement each receives a yearly pension amounting to 50 per cent of his last annual salary.

Many of the hospital buildings are old, but are being replaced gradually by new ones with modern equipment, and supplied with laboratories and amphitheatres for use in instructing students.

Students

The students in the medical school constitute a homogenous group, almost all of them being young men and women who are citizens of Norway and have been educated in the public schools. The schools are operated by the State and the curriculum is the same all over the country. The schools are free, and the State even supplies all necessary books to each grammar school pupil, who is permitted to retain permanent possession of them. Every child in Norway who is mentally capable must go to the public grammar schools for seven years, and it is with laudable pride that Norwegian educators state that every Nor-

wegian child who is mentally capable of learning can read and write. Those pupils who are to have further education next attend the Middle Schools for three years. In the latter the following principal subjects are taught: Norwegian (in all schools); German (in all schools); English (in all schools); French (in some schools); History; History of Religion; Geography; Natural Sciences; The Human Body; Mathematics.

University Students

After completing the Middle School, those pupils who expect to enter the university are required to attend the gymnasium for three years. Here a pupil selects one of the following subject-groups:

Classics—Norwegian; French (3 yrs.); German (3 yrs.); English (3 yrs.); Latin (3 yrs.); History; History of Religion; Chemistry; Greek (if class is large enough).

Modern Languages—Norwegian; French (3 yrs.); German (3 yrs.); English (3 yrs.); History; History of Religion; Chemistry.

Science—Norwegian; French (3 yrs.); German (3 yrs.); English (3 yrs.); History; History of Religion; Chemistry; Mathematics; Physics.

Emphasis is placed upon the history of cultures in presenting the subject of history, which is taught in all the schools from the third year of the Grammar School to the last year in the Gymnasium. History of religion is taught from the first year of the Middle School to the last year in the Gymnasium.

Medical Students

A student who has completed the courses and passed the examinations in any one of the three subject-groups may enter the medical school of the university. Almost all students who expect to study medicine take the Science group in the gymnasium. All medical students who have not had Latin and Physics in the gymnasium, must take these subjects during the first two semesters in the university. Students from other countries are admitted to the medical school upon approval by the faculty.

Tuition

Tuition in all departments of the university is free. A small fee is collected in each laboratory course to cover damage to apparatus. Microscopes are loaned to the students by the university in all courses where they are necessary. Students must buy their own books, and must

be able to read English, French, and German, because many of the text books used are written in those languages.

Curriculum

The university year is divided into two semesters, the first extending from September 1 to December 15, and the second from January 15 to June 15. The program of studies is as follows:

First Division Subjects

SUB-DIVISION A

1st Semester: History of philosophy; logic; physiology; inorganic chemistry; physics; latin.

2nd Semester: History of philosophy; logic; psychology; organic chemistry; physics; latin.

Students who have had Latin and Physics in the gymnasium are not required to take these subjects. The majority of students use three semesters for the studies in Sub-division A, but some complete them in two semesters. Before proceeding further, a student must pass an examination in each of the above subjects.

SUB-DIVISION B

3rd Semester: Gross Anatomy—Lectures and demonstrations in osteology and myology; no dissecting.

Histology—Lectures and demonstrations; study of fresh and prepared specimens.

Physiology—Lectures only.

Physiological Chemistry—Lectures and laboratory experiments.

4th Semester: Gross Anatomy—Lectures; dissecting by students.

Histology—Lectures and laboratory work.

Nervous System—Lectures and demonstrations.

Sense Organs—Lectures and demonstrations.

Physiology—Lectures and experiments by students.

Physiological Chemistry—Lectures and experiments by students.

5th Semester: Gross Anatomy—Lectures and dissecting by students.

Nervous System—Lectures and demonstrations.

Physiology—Lectures and experiments by students.

At the end of the fifth semester most of the students will have completed the studies in Sub-division B, the laboratory subjects, and they usually spend the sixth semester in attending lectures, reviewing and reading, in preparation for their examinations during the latter part of this semester. The weaker students will use the entire sixth

semester in attending lectures and repeating work, and will not plan to take their examinations until the following winter. No fees are charged for attending lectures, and any student is privileged to attend any lecture. This is quite in contrast to the German schools. The student fee system is not used in the Scandinavian universities. The prescribed courses of study are compulsory, and records of attendance are kept by the teachers, but students are not compelled to attend lectures.

Preclinical Examinations

Before beginning the work in the Second Division (the clinical subjects), each student is required to pass examinations in all the subjects in Subdivision B, and is not permitted to take the examinations until he has completed all of the above required courses of instruction. A student may appear for examination at any regular examination period he may choose, either soon or long after he has completed the required work. Some students will spend an extra year, repeating courses, and a few have been known to continue attending lectures and laboratory exercises for several years after having once completed the requirements, before coming up for examinations.

Examinations are given twice each year, in the spring and winter. The spring examinations begin about May 15 and continue to about June 15, varying in length of time with the number of students. The winter examinations extend from about November 15 to December 15. Two examinations are required in most subjects, a written and an oral. The former is the most important, and usually requires six hours for completion. The oral examination is usually about three-fourths of an hour in length. The questions in the written examinations are proposed by the professor in charge of the course, but must be approved by the faculty.

The examination papers written by the students are identified by numbers only. They are read and evaluated independently by the professor and by the censor for his department. The censor is always a practicing physician or surgeon who lives in Oslo, and who is in no other way connected with the university. There is one censor for each department of instruction. He is appointed by the State Secretary of Education, upon recommendation by the faculty, and is paid an annual salary for this work. Being a practicing physician or surgeon he functions as a "balance wheel" on the department, and prevents the professor from becoming too exacting and academical in his requirements as to the students' knowledge of his particular subject.

After the professor and censor have read and marked the papers independently, they have a conference, and each examination paper is given a mark which is the average between their marks. The marks range from 1 to 12. A student passes the written examination if he has a mark of 6 or more as an average between the professor's and censor's grades. If he falls below 6 but slightly, he is permitted to take the oral examination, and if his mark in the latter is good, he may be passed in both examinations regardless of the mark in the written one. If the mark in the written examination is lower than 4.5, the student is not permitted to take the oral examination, and is listed as having failed to pass.

The professor and censor together conduct the oral examinations. If a student fails in his examinations, he has two more chances, but he must wait at least until the next succeeding regular examination before appearing again; or if his mark in the written examination was very low, he must wait for two semesters before coming up to be examined again. In the interim, he is supposed to be improving his knowledge of the subject or subjects in which he failed. If he fails in the second examination, he may even come up for a third, but if he fails that, he is given no more chances. About 25 per cent of the students who take the examinations in the First Division subjects fail to pass, and, consequently, are not permitted to enter the classes in the Second Division.

Since the World War there has been a great increase in the number of students in all the faculties of the university. During each of the past few years there have been from 900 to 1000 students in the medical school. Approximately 600 would be in the First Division, and 400 would be studying clinical subjects in the Second and Third Divisions.

The Clinical Curriculum

After a student has passed the examination in all the subjects in the First Division, and not before, he is permitted to start with the studies in the Second Division, the clinical subjects. These are all taught in the State or City Hospital, principally in the former, and are as follows:

Second Division Subjects

FIRST SEMESTER

Pathology: Taught in the hospital by lectures, demonstrations and laboratory work.

Internal Medicine: Lectures and clinics.

SECOND SEMESTER

Pathology.

Surgery: Lectures and clinics.

Bacteriology: Department of Bacteriology of the State Hospital.

Pharmacology: Lectures and laboratory experiments.

Medicine: Lectures only.

THIRD SEMESTER

Ophthalmology: Lectures and clinics, mostly the latter.

Dermatology: Lectures and clinics, mostly the latter.

Internal Medicine: Lectures only, with demonstrations in lecture room.

Surgery: Lectures and demonstrations.

Pathology: Lectures and demonstrations.

Pharmacology: Lectures only.

FOURTH SEMESTER

Internal Medicine: Lectures and clinics; case histories and examination of patients by students.

Surgery: Lectures and clinical demonstrations.

Neurology: Lectures and clinical demonstrations.

Pharmacology: Lectures only.

FIFTH SEMESTER

Internal Medicine: Lectures only.

Surgery: Clinics and clinical demonstrations.

Neurology: Clinical demonstrations only.

Pharmacology: Lectures only.

In all courses lectures have been reduced to a minimum, and emphasis is placed upon the practical work, clinical demonstrations, etc.

All students in the Second Division must do "week service" in the hospital in medicine, surgery, ophthalmology and dermatology, being assigned to the hospital in pairs, and living there for two or three weeks in each semester. While in the hospital the student learns to make blood and urine examinations, to take case histories, to examine patients, and to make diagnoses, submitting his results in writing to the resident physician, who in turn passes the papers on to the professor in charge of the department concerned. This constitutes an important part of the student's training. He is brought into direct contact with the patients, and follows all the cases assigned to him throughout their stay in the hospital, acting as though he had entire charge of them. He is

closely observed, instructed, and quizzed by the reserve, assistant and candidate physicians. Great emphasis is placed upon giving the students a thorough training necessary for doing general practice. There are but few large cities in Norway, and most of the graduates will go into sparsely settled country districts where each physician is more or less isolated from other physicians, and is compelled to engage in all kinds of general practice under various conditions, relying entirely upon himself.

Examinations in Clinical Subjects

At the end of the fifth semester the student has completed the clinical courses, and may take the examinations. Usually, however, he uses another semester to review, and prepare for the examinations.

In medicine, surgery, pathology and pharmacology the examinations are written and oral. The examinations in dermatology and ophthalmology are practical, a patient being assigned to the student, who must make examinations, diagnose, and prescribe treatment in the presence of the professor, the censor, and any medical student who cares to attend. All oral and practical examinations of students in all subjects are public, and those of the best students are attended by large numbers of fellow students for the purpose of learning.

In the examinations in medicine and surgery the student must examine a patient who is strange to him, make all observations, tests, etc., discuss his findings, make diagnosis, and prescribe treatment. This consumes two hours, and the examination is conducted by the professor in the presence of the censor. Each student is examined publicly, the examinations being held in the hospital auditorium, and any medical student may attend. After the oral or practical examination comes the chief written examination in theory. The student has nine hours in which to complete this. It consists of a dissertation upon a comprehensive subject, and must be written without assistance from books, or any other source. This examination is given by the entire medical faculty of the university, and is evaluated by the professor and censor of the department or departments most concerned in the examination subject. There are but few failures.

After passing all examinations in the second division of studies, the student is permitted to begin the third division, as follows:

Third Division Subjects

FIRST SEMESTER

Obstetrics: Lectures and clinical demonstration; residence in the

maternity hospital, performing deliveries (no specified number). Four resident students at a time.

Pediatrics: Lectures and clinics.

Gynaecology: Lectures and clinics.

SECOND SEMESTER

Psychiatry: Lectures and clinics.

Hygiene and Public Health.

Ear, Nose and Throat: Lectures and clinics.

Medico-legal Practice: Lectures.

Surgery: Clinical demonstrations only.

Medicine: Clinical demonstrations only.

The examinations in the studies of the third division are either written or oral. If the student fails in one subject only, he may repeat that subject and be re-examined in it. If he fails a second time, he must take examinations in the first, second and third divisions of studies again. There are practically no failures.

Entering on Practice

The medical student having passed all the above examinations is now given the "Licentia practicandi," and assumes the title "Læge," or "Doktor," and is qualified and permitted to practice medicine. He does not have the degree of Doctor of Medicine, however.

The young "Læge" usually does one of the following three things:

(1) He starts his own private practice.

(2) He is appointed as assistant by a successful practitioner.

(3) He obtains a position outside Oslo as assistant in some town or province hospital.

After serving from two to five years in one or more of the above fields, he may, if he desires, succeed in obtaining an appointment in the State or City Hospital. These positions are very much in demand, hence there is considerable competition for them. After two years or more of such service he may return to private practice, apply for a position as district physician, or remain in the hospital with the intention of qualifying as a specialist. The district physicians are usually sent to the far North, receiving free traveling expenses, a fixed salary which will cover living expenses, and whatever fees they are able to collect. They must treat the poor without charge.

Who May Practice

In Norway only graduates of the Medical Faculty of the University of Oslo, or graduates of approved universities of other countries,

are licensed to practice medicine. There are no schools of osteopathy or chiropractics in Norway. Recently, a few chiropractors have been permitted to practice, but they are not allowed to advertise themselves as doctors. They obtained their training in the United States of America. The Norwegian Physicians Association is continually waging a campaign against them. Registered pharmacists are not allowed to prescribe treatment.

The following table shows the ratio of practicing physicians to the population.

Year	1910	1915	1920	1927
Total Population....	2,390,402	2,509,263	2,653,054	2,797,827
No. Physicians	1266	1304	1356	1670
Ratio of Physicians to Population.....	1 1888	1 1924	1 1971	1 1675

The Specialist

A Laege desiring to become a specialist must spend from three to seven years in the State or City Hospital. The specialties for which the least time in hospital service is required are Dermatology, Ophthalmology, Rhinology, Otology and Laryngology, and those requiring the longest period of time are Medicine and Surgery. Having completed the required hospital service, the Laege must leave the hospital and do general practice for at least one year. This requirement is invariable. After this, before he can pose as a specialist, he must be accepted as such by a committee, "The Specialists Elect." This committee is appointed by the association of specialists concerned, a sub-division of the Norwegian Physicians Association, which is a very respected and powerful organization. No physician can practice as a specialist in Norway who has not satisfactorily fulfilled all the requirements, and favorably impressed his colleagues as to his fitness.

The Doctorate in Medicine

And still the specialist Laege is not a Doctor of Medicine. This degree is very highly prized because of the prestige which it gives to the possessor. It brings to a physician additional respect and profit. The degree is not necessary for teaching in the university, but it is necessary for any Laege who desires to qualify for a position as professor in the university. In order to obtain this degree, the candidate Laege

must submit a very comprehensive piece of research of high quality and deliberative character which will be a real contribution to science. The successful candidates usually spend from three to six years in research work. When the results of the work are submitted as partial fulfillment of the requirements for the degree of Doctor Medicanae, the faculty of the university appoints a committee from its ranks to decide whether the piece of work is acceptable for the degree. If his work is approved by this committee, the candidate must give two public lectures, one upon any subject chosen by himself, and another upon a subject assigned by the faculty of the university. For the latter subject he has fourteen days in which to prepare his lecture. These lectures are given in the university auditorium in the presence of the committee, the dean of the faculty of medicine, and any one else who cares to attend. After these two lectures have been given, and have been reported upon favorably by the committee, the candidate must next defend his thesis publicly. This is a very important and formal occasion. The faculty of medicine appoints two qualified doctors of medicine to act as opponents to the candidate. The dean of the faculty of medicine presides. In addition to the two appointed opponents, anyone in the audience may speak in opposition to the candidate's arguments. The meeting may last from three to five hours. If the candidate successfully defends his thesis in the opinion of the committee, he is granted the degree of Doctor Medicanae by the faculty of the university. There is no public ceremony for the presentation of the degree, but the successful candidate always gives a dinner to which he invites his opponents and friends! Of the 1670 physicians in Norway at the end of the year 1927, only 89 held the degree of Doctor of Medicine.

Research

An active and vigorous spirit of research permeates the entire medical school. There are many professors in the faculty who are well known in Europe in their respective fields of research. Most of the younger teachers also are engaged in investigative work. There are frequent conventions at which the scientists of one group or another from all the Scandinavian medical schools get together for reading of papers and exchange of ideas. Everywhere the writer was impressed by the high character of the teachers he met, and by the atmosphere of sincerity and thoroughness in both teaching and research.

Report on Visit to Meeting of the General Medical Council, London, May 26 to June 1, 1930

J. STEWART RODMAN

Medical Secretary, National Board of Medical Examiners

The General Medical Council convened for its regular spring term May 20 to June 1, at Hallam Street, London. It was my privilege to attend this session as an invited guest, representing the National Board of Medical Examiners of the U. S. A.

It is not necessary here to explain in any detail either the composition or the workings of this, to us in America, unique body. This detailed information may be found in the full report on "Medical Education and Related Problems in Europe" prepared for the Commission on Medical Education by its director of study, Dr. Willard C. Rappleye, April, 1930. Dr. Rappleye's report was the result of spending some six months in England and on the continent last year observing medical education as carried out in these countries.

Some of us also had the privilege of hearing Sir Norman Walker, direct representative for Scotland on the General Medical Council, address the Congress on Medical Education and Licensure, at its meeting, February, 1928, in Chicago, on the subject of "Medical Licensure and Registration in Great Britain," and of reading in the *Federation Bulletin* for November, 1929, Dr. W. L. Bierring's article on "The British Method of Licensure and Registration."

Appointment of Council

The General Medical Council created by the Medical Act of 1858, somewhat altered by the Act of 1886, now consists of eighteen members appointed by the universities in the United Kingdom having medical faculties; nine members appointed by the medical corporations, such as the Royal Colleges of Physicians and Surgeons; five members appointed by His Majesty in Council, and six directly elected by members of the profession as a whole. To these are added three dentists who are members of the Dental Board and who are present when dental business is under consideration—a total membership therefore of forty-one.

The entire council meets twice yearly and its executive committee some three or four times throughout the year at its own building, 44 Hallam Street. The visitor, in fact, gets his first impression of British thoroughness when he enters this building, built for, and there-

fore especially well adapted for, the deliberations of this body. The large meeting room of the council, arranged somewhat as our state senate rooms are, providing a rostrum, running its entire length, for the president, his legal adviser, the chairman of the business committee, the treasurers, with individual desks for the individual members, a stand opposite the president's seat for witnesses, as in a court of law, and tables for counsel in front of this stand, with a small gallery for visitors at either end of the room, at once lends dignity to these meetings, which impression is greatly strengthened by the membership of the body itself.

Other floors of this building provide committee rooms, executive offices, lounge rooms and a large dining room where the members meet daily for luncheon, which is excellent in itself but serves as an informal meeting place for the whole council who in this way become always better known to each other and thus more tolerant of each others views. In this room also tea is served at 4 P. M., that typical British institution which may have seemed as waste of time to some of us but which serves the purpose of breaking the strain of close attention to some serious problem, an attention which can be continued better for this respite.

Functions of Council

The council has two important functions, (a) medical education, and (b) maintaining the British Medical Register. It thus in effect combines to a large extent the activities of our Association of American Medical Colleges and the various state boards of licensure. It must be understood, however, that it only has the power to suggest insofar as policies of medical education are concerned. Its suggestions may or may not be adopted by the universities having medical faculties or by the licensing corporations. Inasmuch as among its membership are found representatives or members of all of these bodies, the recommendations of the council are adopted as a general rule because such represent the carefully considered opinion of the whole. Since we are more directly interested in the educational side than in the other of its two great functions, maintaining the British Medical Register, we shall return to that side in more detail and briefly report concerning the general plan of action taken when the council becomes a court of justice.

The Medical Register

The council in the exercise of the functions delegated to it by parliament to maintain the British Medical Register and thus indicate to the public the duly qualified from the unqualified practitioner, has now

to decide whether any committed act or acts constitute due and sufficient reason for its sentence—erasure from the register. From this decision there is no appeal in the case of a registered medical person.

The council may direct, on the recommendation of the dental board that a dentist's name be erased from the Dentists' Register or it may remit the recommendation back to the dental board for reconsideration. These registers are different, since one must be on the Dental Register to practice dentistry but this is not the case with the Medical Register. One need not be on this register to practice medicine, but if not on the register, he or she may not exercise certain privileges such as the signing of death certificates, prescribing certain dangerous drugs, etc. In fact, public opinion, always so solidly back of the law of England, practically forces a reputable medical person to be on the Medical Register if he or she wishes to practice medicine.

The council, therefore, is slow to reach its judgment of "guilty of infamous conduct in a professional respect" and to give its sentence of "erasure from the Register." One can not fully appreciate the thoroughness, dignity and judicial fairness of the actions of this court of medical justice unless one has had the rare privilege of attending one of these meetings conducted by that master of all medical legislative problems, the president of the council, Sir Donald Macalister.

No report of a visit to the meeting of this council could be adequate without a word about this most unusual man. A Highlander by birth, a Senior Wrangler of Cambridge, now seventy-six years of age, he has distinguished himself in medical administrative circles in other ways, notably as vice-chancellor of the university of Glasgow, of which university he is now chancellor. For the past twenty-seven years as president of the General Medical Council he has given to this important post a rare combination of qualities, in fact qualities possessed in a degree unique in the experience of the writer of this report. I have never seen a wider or keener insight into medical educational problems than he has nor as judicial a mind in a medical man.

Others possess a wide knowledge of educational problems and we might expect to find such in a mind like his—inherently studious. The combination of this wide grasp of such problems, however, with the ability to administer justice to all those who come on trial before him impressed the writer with the certainty that here was a man different from all the other distinguished medical men one meets—medical by prolonged studious training but surely more judicial by temperament than many who have distinguished themselves in the law alone. The defendant before this court of justice can be sure of a fair hearing before

him, although he may expect no sympathy if the evidence carefully collected and presented by an independent lawyer or one in the employ of the council, shows that beyond doubt certain unforgivable acts have been committed.

Ordinarily much of the council's time is taken up with such "penal cases" and so it was on the occasion of this visit. The limits of this report, however, will not permit of taking up individual cases and so we had best turn again to that other important function of the council—medical education.

Medical Education

All the matters pertaining to medical education in general are referred by the president of the council to either the education, examination, public health or pharmacopia committees, whichever best fits the need of the particular problem. These committees form the standing committees from which are appointed various sub-committees from time to time. While all of these standing committees are important none are more so than the education and examination committees.

Functions of Examination Committee

The latter is composed of twelve members under the chairmanship of Sir Norman Walker, direct representative for Scotland on the council. Again this report must turn aside from chronicling events and say a word concerning this man whom so many of us are fortunate in knowing on this side of the water. As chairman of the business committee and of this most important examination committee, it is he who has the most to do in many of the more important activities of the council. His prolonged services as examiner, teacher and inspector of examinations peculiarly well fit him for these posts for which his energy, driving force and keen sense of humor have naturally suited him. We have greatly profited on this side by his visits and sincerely trust that other opportunities to have him in this country will quickly follow.

The writer of this report can not help but interject a personal note, that being recounting a delightful visit to Sir Norman's home in Edinburgh following the meeting of the council. The opportunity is indeed a rare privilege at any time but more especially so if one's host and his delightful family are themselves so real a part of it. Here we were most fortunate also in finding that the president of the council, Sir Donald Macalister, was a visitor in Sir Norman's home.

To return to the examination committee of the council, however, its duties have mainly to do with examination methods, hearing the report

of visitors from the council to the various examinations of the universities and corporations. Examinations with the British are more important than with us and determine not only the speed with which a candidate may finish his qualification but even which qualification he had best aim for.

Degrees and Examinations

As is well known by those familiar with medical education in Great Britain, one may qualify through a degree attained at a university, the M.B. C.H.B. for example of Edinburgh, or a degree conferred by licensing corporations, as for example, the L.R.C.P., M.R.C.S., of the conjoint board of the Royal Colleges of Medicine and Surgery of London. It is somewhat more difficult and takes longer to attain the university degree, many requiring an average of seven years to do so, while the degree of the corporations may be attained in five years or a little more. The council has no real power in demanding that a change be made in any of the examinations so inspected even though the examination committee may report that the examination in question is not adequate in its judgment. Such is the general respect in which the council's finding are held, however, and so keen the desire that this impartial body may find any given examination of a university or a corporation adequate, that any changes recommended by the council are usually adopted resulting in much benefit to medical education as a whole.

Among the important matters considered by this committee at this session were a consideration of the report on the annual tables for 1929, showing results of examinations held for qualifications admitting to the register under Medical Act 1886, final report on the subjects of *materia medica*, *pharmacy*, *pharmacology* and *therapeutics*, final report on the visitation of the examinations in medical jurisprudence and public health, and a consideration of the problems offered by colonial and foreign students.

As American students made up by far the greatest number of foreign students applying for admission to British universities and medical schools it was this problem which naturally most interested the writer of the report. In order to deal with the problem adequately a special committee of the council was appointed by the president to consider it. With himself as chairman, this committee was made up of some thirteen others, including the chairman of the examination committee of the education committee and representatives of certain universities and licensing corporations.

American Medical Students

Since some eight hundred applications for admission to the medical department had been received by Edinburgh University alone from the United States last year and many in addition by other schools of medicine in Great Britain considerable time was given to this question by the above named committee and a sub-committee of it appointed for the purpose. The report, though at present incomplete, as the committee has been continued for final report in November, is on file in the secretary's office.

One of the most interesting meetings of the council was that held on Friday morning, May 30, at which time this interim report was heard. The president of the council courteously gave the writer of this report an opportunity to speak before the council in answer to questions raised by himself, the chairman of the subcommittee, (Sir Norman Walker), and other members of the council.

Cooperation

Among other matters touched upon at that time, it was said that we in America very much hoped that the way would always be open to that smaller group of unquestionably qualified students who for some good and sufficient reason desired to complete the medical course already begun in a Class A medical school of the United States, in Great Britain. We, however, desired that Great Britain should get only our well qualified students and that the recent large number of applications might be explained in part by the fact that through the efficient work of the Council on Medical Education and Hospitals of the A. M. A., the number of medical schools in the United States had been reduced from one hundred and sixty-two in 1910 to seventy-five Class A schools and some two or three others at the present time—that further, some of our better medical schools limited the incoming class to the number which the particular school in question thought it was well equipped to handle in providing an opportunity for training in up-to-date medicine—that on our part it was certainly the desire of all of those interested in medical education in the United States to furnish authoritative information concerning applicants for admission to medical schools in Great Britain—that such authoritative information could be had from (a) The Council on Medical Education and Hospitals of the A. M. A., (b) The Association of American Medical Colleges, (c) The National Board of Medical Examiners, and (d) The Federation of State Boards of Medical Licensure—that it would certainly be well as suggested, that a "clearing house" for these applications to universities and other

schools of medicine in Great Britain be established in the office of the General Medical Council in order that multiple applications might thus be traced—that while the speaker had no authority to speak for the council on medical education, there would be no doubt of this council's willingness to give any information available concerning any applicant to either the General Medical Council, the branch councils for England, Scotland or Ireland, or any individual department of a university or other medical schools which might apply—that any question concerning the standing of any school of medicine in the United States and the evaluation of any of its courses could be had from the Association of American Medical Colleges, and that the speaker could state without reservation that the National Board would cheerfully co-operate in any way it could in the matter.

Verification of Credentials

The opinion was expressed that it was not safe to take for granted statements made on the candidates' applications and that such statements should be verified from one of the aforementioned sources. This would usually be the Council on Medical Education of the A. M. A., as its efficient secretary, Dr. N. P. Colwell, had on file in his office most of the information which might be asked for. Certainly this would apply to those who had already begun the study of medicine in the United States. If further information was needed than he might have available it could be had from the individual college of liberal arts in the case of those students who desired to begin the study of medicine, but had not yet done so, and from the individual school of medicine in the case of those who had taken a part of the course in the United States and were applying for advanced standing. It was further stated that an "acceptable" medical school in the United States meant one rated as Class A by the Council on Medical Education.

The speaker would not advise admitting to advanced standing in Great Britain a student from a school other than one so rated by the council and only then when the work done had been satisfactorily completed. As considerable doubt had arisen in the minds of many of the meaning of the term "honorable dismissal" the speaker further stated that it was generally taken to mean that the student in question had satisfied the moral obligations of his contract with the school in question but that he was not necessarily entitled to advanced standing in that school. This statement should therefore be accompanied by one from the dean of the school stating that the student in question was also entitled to advanced standing.

Evolution of Liberal Arts Courses

In answer to the question of whether all colleges of liberal arts in the United States were of sufficient standing to give courses acceptable for the minimum requirement of two years work prior to beginning the study of medicine, it was said that this was not necessarily the case and that the college of liberal arts in question must be on the list of colleges approved for this purpose on file in the office of the Council on Medical Education of the A. M. A.

The speaker further stated that he was glad to take advantage of this opportunity to express to the council the appreciation which the National Board felt of the visit in 1920 of three members of this council, namely, Sir Norman Walker, Sir Humphrey Rolleston and Sir Holburt Waring—that this visit, resulting as it did in mutual recognition and reciprocity between the National Board and the Conjoint Board of England and the Triple Qualification Board of Scotland, did much to encourage the National Board in its work.

Other Reports

At this session of the council reports of the education examination, public health, pharmacopea, penal cases and finance committees were heard, approved and where matters pertaining to educational policies were considered and the recommendations made were ordered forwarded to the bodies in question.

These reports are too full to include within the confines of this report. Some also are not ready for publication as the matters under consideration are not finished and thus the minutes are for the confidential information of members of the council.

Among the problems considered by the education committee throughout the week and submitted in its reports to the council were: (a) Public Health, especially as to the place of preventative medicine in the medical curriculum, (b) Vaccination, especially as to the importance of its proper teaching to students, a question submitted by the deans of St. Thomas Medical School and the Guy's Hospital Medical School. This question was referred to the Ministry of Health by the president's direction, and the education committee, after learning the opinion of this department, showing that it was desirable in its opinion to teach this subject in medical schools, went on record as approving of such teaching, (1) provided sufficient cases can be assured and (2) that the teacher of the subject is proficient both in the technique of vaccination and in the requirements of the law, (c) midwifery, relating to the

training of students in antenatal work—in this instance the committee deferring action until the matter can be considered in connection with the reports of the inspector in midwifery, (d) certain matters concerning the dates of registration of students at St. Andrews University and (e) age of matriculation in medicine in the light of the action of the Incorporation Association of Head Masters, which passed and forwarded to the council at its recent annual meeting, the following resolutions:

(1) That the Incorporated Association of Head Masters agrees with the General Medical Council that a boy should have attained the age of seventeen before entering himself at a university or a medical school recognized by one of the licensing bodies, (2) that a "pass" at the main subject standard in a higher school certificate examination in any of the subjects of the first professional medical examination should be accepted, subject for subject, for the purposes of exemption from such subjects in the latter examination, (3) that candidates should be enabled to take the first professional medical examination direct from school. The education committee expressed its satisfaction that its attitude was appreciated with regard to the minimum age but expressed the belief that the other sections of the resolution were matters for the licensing bodies, etc.

Correlation Between Preclinical and Clinical Subjects

The most interesting question considered by the education committee to us, since we are also much concerned with its importance in our own scheme of medical education, was a correlation between the preclinical and clinical subjects. After having had letters from bodies represented on the council it seemed that at present there are two different points of view, namely, (1) that special courses in the application of the preclinical to the clinical subjects should be given by the teachers of the preclinical subjects, and (2) that this type of instruction and correlation is, and should be, carried out by the clinical teachers in the ordinary course of their work. Between these two there are transitional methods although the second method is no doubt the one usually followed, yet it is supplemented in many schools by special courses which are given in all, or nearly all, of the preclinical subjects.

After further thoughts on this subject the committee concludes that this whole question is still in the experimental stage and that therefore it is premature to come to a dogmatic decision in the matter.

The public health committee had referred to it and reported thereon, such matters as certain questions raised by the English Con-

joint Board in relation to registering qualifications of Indian students in public health. Certain other questions concerning exemptions to students raised by the universities of Cambridge, Edinburgh and others—the length of the curriculum, scrutiny of certificates by licensing bodies to make sure that they conform to the existing rules, etc.

The pharmacopoeia committee's report included the report made to it by the Pharmacopoeia Commission which report dealt with suggested additions to and omissions from the pharmacopoeia received in response to the circular addressed to the official bodies in the United Kingdom and in the several divisions of the British Empire.

The limits of this report preclude the desirability of here including the details of other reports of the important standing committees, especially since these reports are on file in the Secretary's office, though in confidential form.

Conclusion

While much more might be included in this report, perhaps sufficient has been to show the thoroughness, care and consideration of this council to the problems brought to it either in the matter of (a) medical education, or (b) maintaining the British Medical Register. Perhaps the greatest benefit derived by the reporter from the meeting as a whole was to be allowed the privilege of being an eye witness to the proceedings and thus to get an insight into British methods of medical education which could be had with difficulty otherwise. Certainly one must have profound respect both for the time-honored and dignified methods of the council itself as well as enjoying the privilege of knowing in person many of those at present representative of the best thought in medicine in that great country.

A great many of their problems are also ours and we can surely benefit by the example of a little less speed and more thoroughness in their consideration. This body represents to England largely what our Association of American Medical Colleges represents to us insofar as all of the universities having medical faculties and other medical schools are represented on it. It is the collective opinion of these men which is formulating the principles underlying the medical curriculum in Great Britain, just as the deliberations of the Association of American Medical Colleges does for us.

With regard to the other great activity of this council, our Federation of State Boards comes nearer to furnishing a parallel than any other body in the United States. The reporter is convinced that we suffer in this respect from too much prohibition just as we do in other respects! There is no uni-portal entrance to medicine in

Great Britain and the council is anxious that there be none. One can dignify the irregulars of medicine too much by passing laws to legalize them in their own fields of endeavor but to prohibit them from any other type of practice. The minority have always flourished when made martyrs of and perhaps the British method of letting them hang themselves is better in the end. Certainly British medicine is less troubled with "sects" than we are.

APPENDIX TO REPORT OF ATTENDANCE ON MEETING OF GENERAL MEDICAL COUNCIL

On Saturday morning, June 7, there was held at the office of the Scottish Branch of the General Medical Council, in Edinburgh, a meeting of some of its members to consider a memorandum prepared by the registrar, Mr. T. H. Graham. There were present Sir Donald Macalister, Sir Norman Walker, Dr. Lorrain Smith, Dean of Edinburgh University Medical Department, Mr. Miles, vice-president, Royal College of Surgeons of England, and its representative on the General Medical Council, the registrar, and myself as invited guest.

The entire business of the meeting was the consideration of the form of this memorandum to be forwarded in due course to the education committee of the General Medical Council for final action. There was considerable discussion of the memorandum as a whole, which, after a few changes, was approved; however, to be considered at a full meeting of the Scottish Branch Council to be called later in the summer.

After this meeting we had an opportunity to visit the Royal College of Physicians of Edinburgh whose building immediately joins the office of the Scottish Branch. In fact, Mr. Graham, the registrar of this branch, is also librarian of the college. It was most interesting to see the home of the only college "born royal", as this college was created by royal decree in 1681. All of the original records of this ancient body are on file here. It was most interesting to learn also that the original MS. of "Rab and His Friends," that immortal story of a collie dog, by Dr. John Brown, a fellow of the college, was also to be found here, as well as many other things of historic value.

System in the Presentation of Subject Matter

GEORGE B. HASSIN

Professor of Neurology, University of Illinois
College of Medicine, Chicago

I shall confine my remarks to the system I have followed in teaching neurology and to the methods used by me in presenting the subject matter whether in the lecture room, the out-patient clinics or at the patient's bedside. The system used in clinical teaching must of necessity differ from the one used in didactic teaching; for in the latter, one deals with a disease process presented in its classical or typical form, while in clinical instruction one deals not with a disease, but with a patient. Here the diseased condition may appear and usually does appear in an atypical form.

In a didactic lecture one is already in possession of the facts, while in a clinical lecture one must get at the facts from which a diagnosis is to be made, as well as a prognosis and the proper treatment outlined. It is but natural that to gain results one should follow a certain system or methods in order to give the students as much information as possible without taxing their patience and mentality, taxed badly enough by an overfilled curriculum, and enable them to humanely answer the so-called examination questions. The methods of system I follow may be outlined in a few words.

1. I stress the fundamentals of the subject presented and teach how to master the elementary methods of examining a patient and how to get at the facts.

To achieve this modest purpose I am utilizing cases of every day occurrence, cases which give a comparatively good prognosis and are fairly accessible to treatment. For instance, cases of peripheral nerve lesions, such as Bell's palsy, so-called sciaticas, nerve injuries, various types of polyneuritis are always preferred to the rare and usually incurable types of atrophies, degenerative conditions, hereditary types of lesion and the like.

2. Complicated cases demanding much confusing differential diagnosing are usually shown at the end of the year. If I show them early in the semester, I utilize them for demonstrations of some important signs or symptoms. For instance, the other day a patient was sent to my lecture room from one of the wards of the County Hospital with a typical Charcot joint of the left elbow. There were no other signs of tabes or syringomyelia, the two conditions in which such a joint

occurs. I refrained from making a thorough differential diagnosis between these two disease and confined my demonstrations to the discussion of the clinical and pathologic significance of this type of joint. The class remained in the dark as to the exact diagnosis but had the privilege of seeing a Charcot joint of the elbow which was illustrated by satisfactory Roentgenogram pictures.

3. The presentation of each case whether simple or complicated should be always concise and in plain language; details are avoided as much as possible. In examining the sensibility, the controversies as to its classification, the mode of distribution, and its recurrence after wound healing are avoided and only the most necessary and established facts are mentioned.

4. Methods of contrast are used whenever possible to replace the routine differential diagnosis. For example, the difference between the peripheral type of facial paralysis and its central type may be mentioned, but a detailed discussion is given only when patients presenting these two types are available.

5. In discussing the diagnosis, I always utilize, aside from anatomy and physiology, pathology to a great extent. Pathologic discussions and demonstrations are of great help in understanding the clinical picture as well as the anatomic features, such as the course of the tracts in the spinal cord and brain and the significance of the function of individual nerves. Cases of bulbar paralysis or amyotrophic lateral sclerosis, are used mainly for the purpose of demonstrating the function of the medullary nerves and the distribution of their nuclei in the medulla oblongata. This aids in recalling the significance of structures long forgotten; some possibly heard of but not understood.

6. The clinical features of a case presented are never sacrificed or subordinated to the laboratory. I do not recommend ignoring the latter but I do insist it should not be worshipped. Laboratory data should be auxiliary. Whenever possible one should be able to get along without such help, and learn to recognize and master the clinical facts and picture. Even the Wassermann test and similar serologic procedures should be subordinated to clinical data. Parts of some lectures are devoted to pathologic demonstrations, usually in the form of lantern slides, and, in rare instances, pathologic specimens.

7. I eliminate theorizing which is confusing and avoid long discussions of subjects which are of interest chiefly to the teacher himself. One may be interested in certain rare subjects or diseases and this is perfectly legitimate; but it is not legitimate to discuss at length such topics in the clinic at the expense of other equally important subjects.

We may summarize briefly as follows: Teach students to recognize signs and to understand their significance; to emphasize the importance of the clinical picture and to correlate the latter with pathology, anatomy and physiology. By following this system it has been possible I feel during many years of teaching for me to maintain the mental equilibrium if not the interest of the majority of my students.

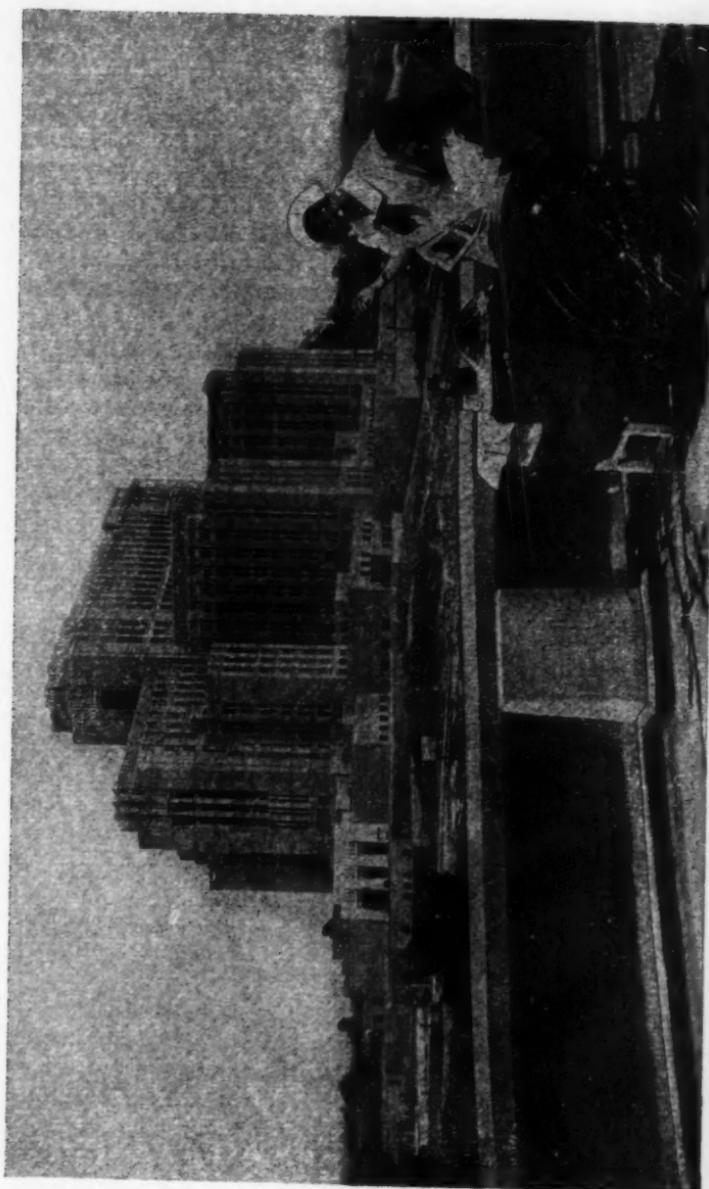
References

ROLLESTON, SIR HUMPHRY, "On writing Theses for M.B. and M.D. degrees." 2nd Ed., John Bale, Sons and Danielsson, Ltd. London, 1925.

HORDER, SIR THOMAS, "Individuality in Medicine," *Lancet*, II 819-824, 1924.

"Dogs Protection Bill. Danger to Medical Research, Use of Stray Animals." *Times*, London, June 8, 1927.

"Students' Guide," published annually in the second volume of the "Lancet." This gives a summary of available information as to facilities for undergraduate and postgraduate medical education, and as to the requirements of various examining bodies.



UNIT 1 OF THE LOS ANGELES COUNTY GENERAL HOSPITAL "By courtesy of the Los Angeles County Employees"

JOURNAL
OF THE
Association of American Medical Colleges

Volume 5

NOVEMBER, 1930

Number 6

DR. FRED C. ZAPFFE, Editor, 25 East Washington Street, Chicago

The Denver Meeting

The forty-first annual meeting of the Association held in Denver, Colorado, October 14-16, will always be remembered, for several reasons.

First, the attendance exceeded the greatest expectations held by any one. Fifty-eight colleges were represented by seventy-seven delegates, and, in this enumeration, only one delegate from the University of Colorado School of Medicine is counted. Therefore, seventy-six representatives came from schools located outside of the state of Colorado. Two of the Pacific Coast schools were not represented.

Second, the local arrangements were as nearly perfect as it is possible to make them. Every contingency was anticipated and provided for, and there was not a hitch in performance. Dean Rees and his associates must have given much time, thought and energy to doing all in their power to make this an outstanding meeting from their angle, local arrangements, and they were remarkably successful. That one element, alone, is more potent in its effect on the success of a meeting than any other. It will even "put over" a poor program.

Dr. Rees, and his able second, Dr. Lewis, even succeeded in interesting the members of the faculty to the point that about seventy-five of them attended the annual dinner! That is a record that is absolutely unique.

Third, the program was well received. The discussion was spirited and showed interest. Several of the papers exceeded

the limit placed on the reading of papers by the Executive Council, but the actual worth of the program was not marred in any way. The chairman rose to the occasion nobly by urging members to discuss papers and the result achieved justifies and rewards the effort.

Finally, the Association took definite action toward enlarging its scope, function and activities in the direction and in the manner that it has been urged to do for several years by other organizations and institutions interested in the general, as well as the specific, problem of medical education. Much remains to be done in this field, which it is the duty of the Association to do. The action was almost a unanimous one. The few dissenting votes cast were the result of lack of instruction by the authorities represented rather than disagreement or disbelief in the need of such action. It may be said that all present were agreed that the Association should assume these functions and that steps should be taken at once to materialize the views expressed.

The Executive Council will consider all these questions very carefully and very thoroughly and will submit plans, as well as a budget, at the next annual meeting to be held in New Orleans in 1931, at a time to be decided on later.

And, so, another memorable meeting has become a part of the history of the Association since its organization in 1891. Those persons who could not attend this meeting missed a rare treat. May there be many more meetings for them to attend—and may they attend them.

Are Medical Boards Keeping Pace with Medical Education?

The federation has been a potent factor in stimulating the progress of medical education, and fully recognizes its responsibility in determining fitness to practice and properly enforcing the necessary regulatory measures.

The question arises: Are the present methods of state boards entirely adequate and in keeping with the medical training of this day?

A written test in the six fundamental sciences and the four clinical subjects constitutes in most states the only qualifying test for licensure. In view of the advancement in medical teaching and prominence given to laboratory work and bedside instruction, a written test appears to determine a candidate's fitness to practice.

The federation has now delegated to the Association of American Medical Colleges the responsibility of supervising medical schools and the training of physicians in this country. Therefore, has the time not arrived for seriously considering the acceptance by state boards of medical school grades in the six fundamental sciences?

mental medical sciences, and limiting the licensure examination to a combined written and practical test in the four clinical subjects of medicine, surgery, obstetrics and gynecology and public health? Due regard is to be given in such an examination to the clinical application of the fundamental sciences. Such a plan will avoid unnecessary duplication of examination tests and be much more in keeping with the progress of the day.—*Federation Bull.*, Sept., 1930.

Catholic Hospital Association

Excerpt from the resolutions adopted at the fifteenth annual convention, held in Washington, D. C., September 5.

BE IT RESOLVED, that this Association encourage all its member institutions to work strenuously for the promotion of medical education within the hospitals through the development of internships in those institutions which still lack them and through the promotion of second and third year residencies in as many institutions as possess the required size and facilities for thus promoting advanced medical studies.

* * * * *

Officers and Committees for 1930-1931

The following officers were elected at the Denver meeting:

President, Maurice H. Rees, University of Colorado; vice-president, C. C. Bass, Tulane University; secretary-treasurer, Fred C. Zapffe, Chicago. Executive Council (for 2 years): A. S. Begg, Boston University and B. D. Myers, Indiana University.

The following standing committee was appointed: Committee on Educational Policies: H. G. Weiskotten, Syracuse University, chairman; E. S. Ryerson, Toronto University; John Wyckoff, New York University; Frederick S. van Beuren, Jr., Columbia University, and Louis B. Wilson, Graduate School University of Minnesota.

Irving S. Cutter, Northwestern University, continues to serve as chairman of the Intern Training Committee. A. C. Bachmeyer, University of Cincinnati, was appointed chairman of the Nurses' Training School Committee.

The Aptitude Test Committee was continued with one exception: E. A. Koch, University of Buffalo, was appointed to succeed Ben Wood. Torald Sollmann is chairman of the committee.

College News

Johns Hopkins University Medical School

The progress of construction of the first unit of the new medical and surgical clinic for the Johns Hopkins Hospital, to be known as the Osler Clinic, now in course of erection, indicates that the opening of the unit for reception of patients will be in January. On its completion, work will be started immediately on the construction of the surgical unit to be known as the Halstead Clinic. These units will add 165 beds to the hospital capacity and will increase the present number of beds in the institution from 747 to 912. All beds in the new building will be in wards to be devoted to the poor of the city. The building will be equipped with laboratories for research of medicine and surgery and with facilities for physical therapy and hydrotherapy. The expenditure represented by the addition to the hospital will be in excess of \$1,300,000, which was supplied by the general education board.

The new addition at the Emergency Hospital, Annapolis, will give the hospital 100 beds. This hospital is affiliated with the Johns Hopkins Hospital, and the Shepard and Enoch Pratt Hospital, Towson; a two months' course in pediatrics is studied at Johns Hopkins and a three months' course in psychiatry at the Shepard and Enoch Pratt Hospital.

University of California Medical School

Among the gifts for research and scholarships announced by the regents of the University of California at their recent meeting were \$1,500 with a check for the first \$600 from the Ciba Company, Inc., of New York, for the Ciba Fellowship in Pharmacology; \$375 from Eli Lilly and Company for a fellowship in

the Pacific Institute of Tropical Medicine, and \$1,000 with a check for the first \$250 from the National Research Council for study of the effect of roentgen rays on the ovaries and uterine tissue of rats and the relation of the pituitary gland to the ovaries in rats. Samuel S. Maxwell, Ph.D., professor emeritus of physiology, donated 2,500 reprints comprising a complete set of the papers of the late Dr. Jacques Loeb.

University of Michigan Medical School

It is announced that henceforth the entrance requirements will demand 90 college hours and that at least one-fourth of the grades must be not less than B.

University of Mississippi School of Medicine

In the reorganization of the faculty, assistance will be given by William R. Amberson, Ph.D., head of the department of physiology, University of Tennessee Medical School, and his assistants. Dr. Amberson and Arthur G. Mulder, Ph.D., will deliver special lectures, and Frederic R. Steggerda will stay in charge of the classes.

Meharry Medical College

The location of the new college buildings will be near Fisk University in North Nashville, with which the medical school will cooperate, but there will be no connection between the managements of the two institutions and each will keep its own identity. It is said that the new plant is to cost \$2,000,000.

University of Southern California School of Medicine

Faculty Appointment: Daniel B. MacCallum, assistant professor of anatomy;

Howard F. West, clinical professor of medicine; John C. Ruddock, Bertrand Smith, Arthur S. Granger and Ray E. Thomas, assistant clinical professors of medicine.

Northwestern University Medical School

The seventy-fifth anniversary of the founding of this school by Nathan Smith Davis and others, was celebrated recently. The main address was delivered by Dr. Isaac A. Abt, professor of pediatrics.

University of Alabama

All doctors of Alabama and their wives were invited by the Tuscaloosa County Medical Society and the School of Medicine to gather at Tuscaloosa, October 3 and 4 for the fall meeting of the Northwest District Medical Society of the state medical association and for the unveiling of the portrait of Dr. Josiah Clark Nott, founder and first professor of surgery of the Medical College of Alabama at Mobile. The portrait was painted by Charles H. Mader, of Mobile and presented by James Van Antwerp, of Mobile. Prominent alumni read historic sketches of Dr. Nott and the Mobile school. The School of Medicine gave a luncheon in honor of the visitors in the new Union building. After luncheon, the visitors were guests of the University at the Alabama—"Ole Miss" football game.

University of Toronto Faculty of Medicine

J. C. B. Grant for ten years head of the department of anatomy in the University of Manitoba has been appointed head of the department of anatomy to succeed J. P. McMurrich. Doctor Grant graduated from the University of Edinburgh in 1908 and holds the degrees of M.B., Ch.B. with honors, as well as the F.R.C.S. Edinburgh. He has been on the staff of the University of Edinburgh as well as the School of Medicine, Durham University, Newcastle-on-Tyne, England.

Because of his distinguished service at the war, he was awarded the Military Cross.

James Playfair McMurrich, who has been professor of anatomy since 1907, has resigned and the title of professor emeritus has been conferred on him.

Herbert A. Bruce has resigned after being on the staff in the department of surgery since 1897. He has also had the title of professor emeritus conferred on him.

J. G. Fitzgerald has been appointed a member of the Health Committee of the League of Nations and one of the four "public health expert assessors" of the committee. The appointment is for a period of three years from July 1, 1930.

New York University and Bellevue Hospital Medical College

Department of Pediatrics: The Children's Medical Division of Bellevue Hospital was transferred from Columbia University to New York University July 1, 1930. This service has a census running from 100 to 175, average about 140 patients. There are six wards, one each for the following: infants with infections; infants without infections; acutely ill older children; one each for boys and girls with chronic or subacute illness; and one for gonococcus infection complicated by other illness. A special ward for tuberculosis is under construction. A nursery school with complete modern equipment occupies a roof pavilion. The wards are new, well lighted, with ample balconies and every bed is in a cubicle. There are numerous small rooms off each ward to which all children are admitted and are kept for several days to filter out contagious disease. In the near future the Outpatient Department will move into a new, modern buildings with ample room for the large attendance.

Most of the teaching of pediatrics will be done on this service, with some courses

at City Hospital (Clinical Professor Walter Lester Carr), Roosevelt Hospital (Clinical Professor Alexander T. Marin) and the Willard Parker Hospital for contagious diseases.

Practically the entire staff of the service transferred from Columbia University to New York University. The department has been reorganized as follows:

Professor of pediatrics and director of children's medical division: Charles Hendee Smith; clinical professors and visiting physicians, Giuseppe Previtali, Hugh Chaplin, E. S. Rimer, G. W. Graves; clinical professor and assistant visiting physician, Bret Ratner; assistant clinical professors and assistant visiting physicians, S. D. Bell, Edith M. Lincoln, Harry Bakwin, Lucy P. Sutton, Josephine H. Kenyon.

The children's department of the College Clinic will be conducted by the same staff as the hospital and in close connection with it.

University of Chicago

The General Education Board has appropriated to the University of Chicago \$1,000,000 toward \$2,000,000 needed for the construction, equipment, endowment, and maintenance of two buildings, one for the department of hygiene and bacteriology and one for the department of anatomy.

Western Reserve University School of Medicine

Trustees of Western Reserve University confirmed the unanimous election by the faculty of the School of Medicine of Dr. Carl H. Lenhart as professor of clinical surgery and as Chief of the Division of Surgery of the City Hospital. Both in the faculty and in the City Hospital Dr. Lenhart will fill the vacancy left by the death of Dr. Carl A. Hahn last January 12. His appointment looks to the strengthening of the division of surgery in City Hospital by the or-

ganization of a continuous rather than intermittent service by the visiting staff.

Dr. Lenhart will retain his office as Director of the Surgical Division of St. Luke's Hospital, whose trustees have also approved his new appointment. He will give half of his time to his new position at City Hospital, where he will have associated with him Dr. Samuel O. Freedlander, who has held for many years a responsible post there.

University of Missouri School of Medicine

President Walter Williams announces that the Board of Curators on October 4 authorized the reestablishment of the clinical years of medicine. This action followed recommendations by the Missouri State Medical Society, the Faculty of the School of Medicine and others interested in the growth of the university.

The present plan calls for cooperation between the university hospitals and the Boone County Hospital as the primary teaching units. With the outpatient clinic recently established by the university hospitals, and possibly other affiliations with nearby hospitals, there should be sufficient clinical material for the proper teaching of these subjects to small classes.

The faculty of the School of Medicine approved the project unanimously.

Johns Hopkins University

The General Education Board of New York has given \$500,000 to the Johns Hopkins Hospital and School of Medicine to be used for the completion of the William Osler Medical Clinic and the William Stewart Halsted Surgical Clinic.

A gift has been received from the General Education Board, totaling \$312,500, for the establishment of a department of the history of medicine. The sum is in addition to \$750,000 previously given to build the William H. Welch Medical Library and \$250,000 for the maintenance of the professorship in the history of

medicine which is occupied by Dr. William H. Welch. The gift is given in the form of \$12,500 for each of five years and then a capital sum of \$250,000, making possible provision for other professorships in the department of the history of medicine. Since the library was first planned, it is reported, it has been the wish of the authorities at Johns Hopkins to create a full department to investigate the various branches of medical history.

Dr. Fielding H. Garrison, recently appointed librarian of the William H. Welch Medical Library, has also been appointed resident lecturer in the history of medicine.

Washington University

The university has received a gift of \$240,000 from the Rockefeller Foundation. No restriction is placed on the use of the money, except that it be spent principal and interest over a period of seven years in research in pure as distinguished from applied science. It is stated that the fund will be used in an effort to solve some of the fundamental problems of nature and human life.

Woman's Medical College

The new college building of the Woman's Medical College of Pennsylvania was formally opened on Wednesday, September 24. Dr. Donald Guthrie, fellow of the Surgical Research Society and member of the International Surgical Association, made an address on "The Modern Medical Graduate—Ambassador of Health." Addresses were made by Mrs. James Starr, president of the college, and Dr. Martha Tracy, dean. The building was built at an expenditure of \$1,000,000.

Columbia University

Appointments to the faculty: Crawford F. Failey, of the Johns Hopkins University, and Walter F. Sperry, of New York,

have been appointed assistant professors in biological chemistry; Rustin McIntosh, of the Johns Hopkins Hospital, will be professor in diseases of children; George W. Bachman, of the School of Tropical Medicine, San Juan, Porto Rico, becomes associate professor in parasitology; Samuel T. Orton, of the University of Iowa, has been named professor in neurology and neuropathology.

Temple University School of Medicine

The \$1,500,000 building was opened for the use of students when the autumn term began September 24. It was formally dedicated October 15. Dr. William J. Mayo, of the Mayo Clinic, was the principal speaker.

University of Maryland School of Medicine

The old dental school building has been completely remodeled to house the departments of biochemistry, pathology, clinical laboratory, bacteriology and medical art and photography. Out of 900 applicants for admission to the freshman class, 130 have been accepted.

Wake Forest College School of Medicine

Thirty-five applicants have been accepted for admission to the freshman class. The members of the last sophomore class are continuing their medical studies in eight four year medical schools: Jefferson, Syracuse, Duke, Northwestern, Temple, Pennsylvania, Maryland and Medical College of Virginia. The entering class is limited to thirty-five students. Dr. Thurman D. Kitchin, president of the college, retains the deanship of the medical school.

Our next Annual Meeting—the forty-second—will be held in the city of New Orleans.

Personals

The Maxon Gold Medal of the Royal College of Physicians, London, awarded every third year for notable observation and research in clinical medicine, has been awarded to F. Parkes Weber.

The Weber-Parkes prize, awarded tri-annually for research in tuberculosis, has been awarded to S. Lyle Cummins.

William P. Lucas, of San Francisco, who retired last year from the professorship in pediatrics in the University of California Medical School, was presented with a gold watch purchased with contributions made by the students of seventeen classes.

Lewis R. Sutherland has retired from the professorship in pathology in St. Andrews University.

Charles B. McGlenuphy, professor of pathology and bacteriology in the University of North Dakota School of Medicine, has resigned to take the position of full time pathologist at the Deaconess Hospital, Evansville, Ind.

Karl Kotschau of the University of Berlin will be a guest professor during the coming year at the New York Homeopathic Medical College.

H. E. MacMahon has been appointed professor of pathology at Tufts College Medical School.

H. A. Harris, assistant professor of anatomy, University College, and assistant to the medical unit, University College Hospital, London, was awarded the Alvarenga Prize of the College of Physicians of Philadelphia for an essay entitled

"Cod Liver Oil and the Vitamins in Relation to Bone Growth and Rickets."

J. O. Crider has resigned from the deanship and as professor of physiology in the University of Mississippi School of Medicine to accept a professorship in physiology in Jefferson Medical College.

Ross V. Patterson, dean of Jefferson Medical College, was elected president of the Pennsylvania State Medical Society.

P. L. Mull, professor of anatomy in the University of Mississippi School of Medicine has been appointed dean of the school.

W. R. Morse for more than twenty-five years a member of the faculty of the Western China Medical Missionary College, located at Chengtu, is in the States on leave of absence.

John Orr, dean of the University of Edinburgh Medical Faculty visited Association headquarters en route to Winnipeg where he attended the meeting of the British Medical Association.

Samuel Gelfan has been appointed assistant professor of physiology and pharmacology at the University of Alberta.

M. Balthazard, professor of legal medicine and director of the Medicolegal Institute of the Paris School of Medicine, has succeeded Henri Roger as dean.

Henry McE. Knowler has accepted the appointment of associate professor of anatomy in Albany Medical College.

Hans Zinsser, professor of bacteriology in Harvard Medical School, delivered the Carpenter lecture before the New York Academy of Medicine, October 29.

Wade C. Oliver, professor of bacteriology in Long Island College of Medicine, is acting as exchange professor in the College of Medicine of the University of the Philippines.

Thomas S. Cullen, professor of clinical gynecology in Johns Hopkins University School of Medicine, was given the degree of doctor of laws by the University of Toronto.

Franz Knoop, professor of physiologic chemistry and director of the Institute for Physiological Chemistry, University of Tübingen, delivered two lectures at the Harvard Medical School, October 15 and 17, under the Edward K. Dunham Lectureship for the Promotion of Medical Sciences.

John F. Fulton, Jr., of Oxford University, has been appointed Sterling professor of physiology.

J. G. Dusser de Barenne, formerly professor of physiology in the University of Utrecht, has been appointed professor of physiology in the Yale Medical School.

Robert K. Caman, of the University of London, has been appointed professor of chemistry in New York University Medical School.

William R. Birnbaum has been appointed assistant in anatomy in the University of Wisconsin Medical School.

Max M. Ellis, professor of physiology in the University of Missouri School of Medicine, has resigned to accept a position in the U. S. Bureau of Fisheries.

O. H. Wangensteen, of the University of Minnesota Medical School, has been granted \$600 by the committee on scientific research of the American Medical Association to continue his studies on intestinal obstruction.

John B. Nanninga has received a fellowship to do research work under Ralph H. Major in the School of Medicine of the University of Kansas. The funds for this fellowship are provided by the Committee on Scientific Research of the American Medical Association and the National Research Council.

Waller S. Leathers, dean of Vanderbilt University School of Medicine and president of the National Board of Medical Examiners, was recently elected a member of the Board of Scientific Directors of the International Health Division of the Rockefeller Foundation.

Henry S. Pritchett resigned August 1 as president of the Carnegie Foundation for the Advancement of Teaching, a position he has held since its organization in 1905. He is succeeded by Henry Szczalzo, who is a trustee of the foundation and was formerly president of the University of Washington.

Allen B. Kanavel, professor of surgery in Northwestern University Medical School, was elected president of the American College of Surgeons.

General News

The Beit Fellowships for Medical Research

The Beit fellowships for research in medicine and the allied sciences were founded in 1909 by the munificent gift of \$1,150,000 from Sir Otto Beit. The annual income has ever since been used for the endowment of fellows engaged in research. The fellowships are whole-time appointments, though teaching related to the allied branch of science is permitted. The candidate selects the subject of his research and in submitting gives an account of his previous career to referees who will give evidence of his fitness. The value of the fellowships is \$2,000 per annum for three years, \$2,500 for the fourth year and \$3,500 for the fifth, sixth and seventh years. The total number of fellows elected so far is 130 and but for the war would have been greater. The type of the fellows is shown by taking the year 1925 as a convenient limit and following their careers. Up to that year 79 men and 22 women were elected. Of the men, 7 died at a relatively early age. Of the 72 remaining, 4 have received the F.R.S., and 19 have been appointed university professors. Most of the remainder occupy whole-time posts for teaching, research or scientific work and many have continued the careers on which they entered when elected. The two best known are Sir Thomas Lewis, F.R.S., whose contributions to cardiology form the greatest advance made in English medicine in recent years, and Prof. Edward Mellanby, F.R.S., who has proved the dependence of rickets on vitamin deficiency.

Medical Center for Uruguay

The plan for a medical center projected by the Uruguayan government has been completed. Work on the building started

September 15. Dr. Clarence C. Burlingame, executive officer of the New York Medical Center, during its planning and construction has just returned from a three months' stay in Uruguay, where he was consultant for the government in designing a similar group of buildings. The center is to be twenty-three stories in height, reinforced concrete without steel framework. The program includes a psychiatric institute similar to that recently completed by the state at the New York Medical Center.

Casselberry Prize Fund

The sum of \$500, which has accrued from the Casselberry Fund for encouraging advancement in the art and science of laryngology and rhinology, is now available as a prize award, decoration or the expense for original investigation and research. Theses or reports of work must be in the hands of the secretary, Dr. George M. Coates, 1721 Pine Street, Philadelphia, before February 1 of any given year.

Brush Foundation

A group of nationally prominent scientists, medical men, psychologists, sociologists, and educators met in Cleveland, October 17 and 18, to attend the Conference on Adolescence Research sponsored and conducted by Western Reserve University and the Brush Foundation.

This is the first conference ever held on this problem, and will bring together the findings and studies of the many workers in the field in addition to the findings of the studies which the Brush Foundation has been carrying on under the direction of Dr. T. Wingate Todd, Foundation Director.

The conference is not open to the public. A specially selected group of audit-

ors was chosen to attend the sessions of the conference. This group is composed of scientists and educators. The proceedings of the conference will be published by the Brush Foundation following the sessions.

The conference will deal with the many phases of the changes which take place in the child during the "second decade." Included in these discussions will be such subjects as: the relationship between the development of the body and the mental powers during the period of adolescence, the effect of nutrition on development, the effect of endocrine glands, studies of adolescent behavior, and the organization and development of personality.

The conference aims to present a well-rounded view of one of the most perplexing problems of human development, and to make available such facts as research has been able to determine.

Institute for Child Guidance Fellowships in Psychiatry

Six fellowships in psychiatry will be available at the Institute on June 1 and September 1 of 1931, each for a period of one year. Fellowships are open to graduates of Class A medical schools who are residents of the United States and under thirty-five years of age. Ap-

plicants should have had an internship in a general hospital and must be adequately grounded in the fundamentals of psychiatry. Stipends of approximately \$2,500 are awarded. Fellows are expected to give full time to the Institute program and must complete their fellowship.

Kellogg Foundation for Medical Research

Mr. W. K. Kellogg of Battle Creek has recently established the W. K. Kellogg Foundation for Medical Research. It is the intention that this organization shall collaborate with the faculty of the College of Medical Evangelists and with the staff of the White Memorial Hospital, Los Angeles. The endowment yields approximately one hundred thousand dollars per annum. It is Mr. Kellogg's desire that special attention be given to the subject of cancer, in which he is deeply interested.

The Board of Trustees of the Kellogg Foundation consists of the following:

Percy T. Magan, M. D., President; Frank E. Corson, Treasurer; Rowland H. Harris, M. D., Secretary; Newton Evans, M. D., Director of Research; Benton N. Colver, M. D.; George H. Thomason, M. D.; Mrs. Litta Belle Campbell; J. M. Nielsen, M. D.

Deaths

Walter E. Murphy, professor of otology in the University of Cincinnati College of Medicine, died in August of cerebral hemorrhage, aged 69.

Antonio DeB. Young, professor of neurology in the University of Oklahoma School of Medicine, died in June of coronary thrombosis, aged 56.

Frederic M. Strouse, assistant professor of laryngology, Graduate School of

Medicine of the University of Pennsylvania, died, aged 66, of injuries received when he was struck by an automobile.

Theodore Axenfeld, director of the University Eye Clinic in Freiburg, died in July, aged 63.

Emory G. Alexander, assistant professor of surgery in the University of Pennsylvania School of Medicine, died from a self-inflicted wound, aged 50.

Abstracts of Current Literature

Medical Education in Burma

In Rangoon, the capital of Burma, there is nearing completion one of the most comprehensive university building schemes in the Empire. The university is entirely residential, and is organized as two constituent colleges, University College and Judson College, the second being largely supported by mission funds from America, and the teaching staff being chiefly American. From University College, the larger institution, it is expected that the medical department will separate off as a third constituent college of the university within the next few months, as a matter of administrative convenience.

The new medical college building was opened in October, 1929, and in design and equipment is unsurpassed by any medical teaching institute in Asia. It takes the form of a square two-story building, with a frontage of 300 feet; it is arranged 'round a quadrangle, into which the two superimposed main lecture theaters project. The ground floor accommodates the departments of physiology (including histology and biochemistry) and forensic medicine, three lecture theaters, the examination hall, offices, cloak rooms, lavatories, and students' common rooms. On the second floor are the departments of anatomy, operative surgery, pharmacology and *materia medica*, pathology and bacteriology, the library, a large lecture theater, and several small seminar rooms. Animal rooms and gas plant are situated in separate buildings at the rear of the main structure. Hygiene is taught in the recently opened Institute of Public Health, the director of which is the university lecturer in hygiene. University funds have also provided clinical and postmortem theaters of the most modern type at the hospitals. Apart from the general com-

pleteness of equipment and the ample supply of anatomic material, the points which seem most to impress experienced visitors are the splendidly arranged and amply stocked museums in the pathology and forensic medicine departments. This is due, not only to the keenness of the staff concerned, but to the facts that there are over one thousand complete necropsies performed annually in the Rangoon General Hospital, and that crime with violence is notoriously prevalent.

There are seven university medical chairs—anatomy, physiology, pathology, forensic medicine, surgery, medicine, and obstetrics. The heads of the remaining departments have the status of university lecturers. All the heads of departments of medical teaching are European. The dean of medical studies is Lt.-Col. T. F. Owens, I.M.S., professor of forensic medicine.—*British Med. Journal*, Aug. 23, 1930.

Views of August Bier

... Also there is much to be said against the one-sided spirit of specialism which dominates the field today. The innumerable requirements of a long professional education are responsible for the fact that it takes a long time before a man becomes valuable. These requirements are constantly being added to and therefore increase the time before a student may start out for himself. This tends to make the world old and especially medicine. It is a sorry situation when a man has to be thirty years old before he becomes a specialist and then must begin with a very small practice. This is still worse in the academic field and especially in medicine. Nowadays young doctors become assistants at an age, when in my time, a promising man

was holding a professorship. Virchow enjoyed this privilege when he was 28 years of age. If he had been forced to hold a subordinate position as an assistant in a pathological institution until he was 40 years of age, as is now the case, he would never have been the conquering investigator he was, especially if he had been forced to work under a man who might have paralyzed his desire to create and find new things. Just imagine a head of a department forcing him to work for fifteen years or so on one of his small favorite subjects. I do not believe that Virchow would have submitted but how many poor dependent men are now compelled to work under the pressure of the chief and who cannot afford to have their necks broken. By the time a man can secure an independent position, the best of his powers are broken down.

And this tendency to make medical science older and older progresses constantly. Each reform in the teaching of medical students starts in with the student, who is constantly bounded by one or more specialists whose aim, and usually successful aim, is to force the student into the lecture instead of trying to make their teaching so valuable that the students come voluntarily. And it is due to these specialists that new burdens are placed upon the student body and if the time is not sufficient, the curriculum is changed and thus the age of the student further increased.

One reform of medical training follows another, and every one so far has created the just described development. I once asked the following question while attending such a reform conference—Why do we always start reforms on the student body? Why do we not start with the professors or why do you not start with yourself? Limit yourself to the most important points and place the non-essential in the background. Under all circumstances I am opposed to placing new burdens on the student body unless

they are relieved in another field. So, I am utterly opposed to the absolutely unnecessary subject of theoretical pathological physiology which some people would like to introduce. A clinician who cannot do better than to include this in his lectures is a theoretical specialist and should be excluded from teaching for lack of ability. Pathological physiology should make up the main part of a good clinical course and should make it fascinating and valuable.

Obstetrics, for example, belongs to the field of pathological physiology. Does one try to study this on mice and to lecture to students of obstetrics on work that is being performed in laboratories?

In spite of all reforms, students know less and less, both theoretical and practical. On this point most of the professors who have been in the teaching profession for decades are agreed.

Once more one tries to reform the study of medicine. Will it be better this time?—AUGUST BIER: *Muenchner Med. Wochenschr.*, April, 1930.

Pharmacology and Medical Schools

Charles W. Edmunds (J. A. M. A., Aug. 9, 1930), reviews the status of pharmacology in the curriculum of the medical schools and its influence on the practice of medicine. He says: Imagine a physician with a training covering four years, such as is given in a modern medical school, followed by one or two years' internship, receiving a letter from a pharmaceutical firm telling him that "he should refer his medical problems to them." Such a letter is an insult to the profession and yet it is from such sources that the average physician takes his graduate training in therapeutics. If perchance he is a visiting physician in a hospital or a teacher of medical students, he hands on this commercial therapeutic misinformation. After all, the pharmacologist cannot be held responsible for instruction in practical therapeutics. In

only rare instances does he have access to the clinic. The internists, whether they will or no, must give such training. If the practical therapeutic knowledge of recent graduates is limited to proprietary preparations, his clinical teachers are responsible. Their methods of practice are reflected in their students. And yet it is absurd to say that the pharmacologists are not "especially concerned with the immediate or practical application of their results." It may be true that the pharmacologists are physiologically trained or minded; but it might be pointed out that it is also the tendency today for the modern internist to try to solve his clinical problems on a physiologic basis, so that he too today is more and more physiologically minded, if he is keeping abreast of modern medicine. Pharmacology, standing as it does midway between the preclinical medical sciences and the clinical subjects, occupies a unique position. Besides furnishing its own special contribution to scientific practice, it helps to bridge the gap between the normal and the pathologic, frequently aiding in an understanding of the latter, and it may furnish the rational basis for the remedial agents, as it has so often done before.

Anatomy

The thing which every medical man remembers about anatomy is the number of hours which must be spent in the dissecting room, and the number of hours which must be spent before the required details can be committed to memory. To many, if not to all of us, who are not professional anatomists, it seems that the student is required to master details, some of which are essential neither to the concurrent study of physiology nor the subsequent comprehension of medicine and surgery. Certainly much of the anatomy which the student knows at the time of his examination is forgotten within the next three years, and much of that which is forgotten is never missed.

Anatomy is not, of course, the only subject which fades from the memory when the examination is passed, and it may be necessary to learn a great deal of anatomy in order that some may remain in the memory. But after a conference of anatomists with teachers of other subjects it might be possible to reduce the time spent on dissection, and on the acquirement of a knowledge of topographical anatomy. For the technical methods involved in the dissection of the various parts are essentially the same, and the mental processes involved are those which depend on a visual memory. After one or two parts have been dissected, further dissection brings no new experience to brain or fingers. If it is necessary that the whole body be dissected some remission of knowledge of detail may still be possible—H. R. DEAN: *British Med. J.*, Sept. 6, 1930.

Physiology

During the last thirty years medicine has been coming closer to physiology, and physiology has, on the whole, become less medical. Few branches of natural science have developed more rapidly during the last forty years than physiology. The great development of physiology as a branch of experimental biology has affected the relation of physiology to medicine and the attitude of physiologists to the medical student. Physiology, emancipated from her "mother" Medicine, contracted closer alliances with chemistry, physics, and mathematics. The human body came to be regarded as a maze of semi-permeable membranes inhabited by electrolytes and colloids. Physiology moved towards chemistry and physics, and away from anatomy and zoology. The interest of physiologists in histology, and the relation of microscopic structure to function waned, and the gap between anatomy and physiology, between structure and function widened. For the education of the

medical student the correlation of anatomy and physiology can hardly be too close. Advances made by physiologists in the first quarter of this century have been of great and direct value to the physician and the surgeon. The physician of today is probably more interested than his predecessor in the application of the methods of the physiological laboratory to the diagnosis of disease. Every branch of science must change its ground if it is to change its point of view. Change is necessary to progress, and there has been progress. But for the sake of the medical student who must learn many subjects within a relatively short period of years correlation of subjects is always an urgent necessity.—H. R. DEAN: *British Med. J.*, Sept. 6, 1930

Chemistry

A reviewer of the history of medicine might point with justice to the development of chemical methods in the medical and biological sciences as one of the great events of the last thirty years. Etiology and diagnosis, prevention and treatment, have all benefited by the introduction of chemical methods. Nearly all critics of the medical curriculum insist on the urgent need of more instruction in chemical theories and methods. Today the student is taught elementary inorganic chemistry at school; a short course of elementary organic chemistry is taken at school, or more often at the university. Organic chemistry is the subject of a special examination. A gap, more or less unbridged for the student, separates the organic chemistry of the department of chemistry from the physiological chemistry or biochemistry of the departments of physiology or biochemistry. At a late stage in the curriculum instruction is given in the chemical laboratories of some hospitals on chemical methods of diagnosis. Instruction in chemistry is imparted to the student in installments. But the progress which has taken place in the knowledge of chemistry as applied to

biology has resulted not so much in the correlation of the chemistry of living with the chemistry of non-living matter, as in a divorce of biochemistry from its intimate partnership with physiology, pathology, and medicine. Biochemistry, which started as chemical physiology, has become an independent branch of biology. Physiology, pathology, and medicine are not the only branches of biology which have problems which may be solved by chemical methods. Zoology, botany, and agriculture have chemical aspects and interests. Biochemistry is no longer a part of the department of physiology, but has become consulting chemist to all biological departments. How has the development of biochemistry affected the medical curriculum and the medical student? In this consolidation in one department of all the chemical interests of all branches of biology we may study some of the problems connected with the correlation of the subjects of the medical curriculum.—H. R. DEAN: *British Med. J.*, Sept. 6, 1930.

Pathology

Of all the subjects of the medical curriculum, pathology is best placed to help the student in the co-ordination of his experiences of normal and abnormal biology. Now pathology, the youngest daughter, has made herself so useful that Mother Medicine has been very unwilling to allow her to grow up and become an independent science and have a house of her own. But Mother Medicine has kept pathology at home with her in the hospital to look after the mortuary and the museum, and to cut sections and write reports on tumors. Later on, pathology taught herself to prepare culture media, grow bacteria, make vaccines, and to perform chemical examinations. Pathology has been an extremely useful maid-of-all-work, and on winter evenings, after the work in the wards is done, the students, if they are not too tired, come to her that they may be told something of

in the living matter, from its pathology, chemistry, has biology. There are which is aided by, and includes a part that has physiologically developed medical treatment? In extent of branches of the relation curriculum. Sept. 6,

al cur- to help of his normal youngest ful that willing come an house of as kept the hos- and the will write pathology media, to per- pathology maid-of- s, after the stu- come to thing of

the laboratory methods by which certain diseases may be diagnosed or treated.

In the majority of the universities of Scotland and England a formal course of pathology occupies a portion of the student's time during the twelve months which follow the examinations in anatomy and physiology. These courses coincide with the first year of hospital work; they are over too soon, before the student is in a position to correlate medicine with pathology—the study of disease in the ward with the study of disease in the laboratory. The student is apt to regard pathology as the last of the long series of obstacles which he must surmount or evade before he is permitted to devote his attention to medicine.

Students, after they have begun clinical work in the wards, have little time and little opportunity for the study of pathology. Morbid anatomy can be learned in the post-mortem room. In some hospitals pathologic clerkships in connection with clinical laboratories afford chances of acquiring practical experience of useful diagnostic methods. Lectures are not always given during the same term, and often bear no relation to courses of practical instruction. There is too little coordination of the teaching of morbid anatomy with morbid histology, with bacteriology, and with chemical pathology. Pathology is presented to the student as a laboratory branch of diagnosis.

There can be no other three subjects within the whole medical curriculum so nearly allied as medicine, surgery, and pathology, no other three subjects which offer such opportunities for coordinated teaching; to the student, then, pathology, medicine, and surgery should be one subject. Pathology is not an introductory science, nor is it a system of laboratory diagnosis to be learned at the completion of the usual period of clinical study; it is the study of disease by the methods of the laboratory, just as medicine and surgery are the study of pathology by the

methods of the wards. It is desirable to begin the study of disease in the laboratory at least as early as it is begun in the wards, and the laboratory study should be correlated with ward study throughout the clinical period.—H. R. DEAN: *British Med. J.*, Sept. 6, 1930.

Medicine and Surgery

Practical instruction in medicine and surgery must be the backbone of the curriculum, and the product should be a man skilled in the prevention, diagnosis, and treatment of disease. There has been a comparable increase of knowledge, and a comparable tendency to specialization, with the splitting off of special departments concerned with certain diseases or groups of diseases, or with special methods of diagnosis or treatment. There is a tendency to insist on certificates of attendance at each special department, and demands are made from time to time for special papers on special subjects, and the appointment of special examiners. Taken by itself the case for each of these special subjects may appear incontrovertible. But if the claims of all the special subjects were admitted in full there would be little time within the three years' period of clinical study for general medicine and surgery.—H. R. DEAN: *British Med. J.*, Sept. 6, 1930.

Forensic Medicine

In all medical schools lectures are given on forensic medicine, and on preventive medicine and hygiene; some universities insist on special examinations in these subjects. The standard of knowledge in forensic medicine which can be demanded of a medical student hardly seems to warrant the dignity of a special examiner and a special paper. From the nature of the subject practical instruction can only be fortuitous, and it does not seem necessary that the burden, admittedly a very temporary burden, of details derived from a textbook or lec-

tures should be added to the student's heavy pack. The importance of preventive medicine is beyond dispute. But the prevention of disease is the concern of every teacher of medicine, surgery, and pathology; it does not seem reasonable to isolate the prevention of a disease from its etiology, diagnosis, and treatment. If the lecturers on medicine, surgery, and pathology fail to deal with the prevention of diseases on which they lecture, they must fail to do justice to the subjects committed to their charge. Candidates should be, and in fact are, examined in preventive medicine by examiners in medicine, surgery, and pathology, and there is no need for a special examination in this subject.—H. R. DEAN: *British Med. J.*, Sept. 6, 1930.

Training in Natural Sciences

It is of the first importance for the future of the medical profession that facilities for advanced training in the natural sciences should be available for those medical students who are able to take advantage of them. It is important that every encouragement should be given to medical students to devote additional years to the study of science from an unspecialized and non-professional standpoint. From this point of view the less the connection of the science which is studied with medicine the better. Men whose training before they enter medicine has been generously broad will bring new ideas with them into medicine. But not all medical students become research workers or teachers, and not a very large proportion of students have the inclination, time, or money for additional courses in science. A love of pure science for pure science's sake is not the only, and possibly not the most important, quality for success in general practice.—H. R. DEAN: *British Med. J.*, Sept. 6, 1930.

Object of Medical Curriculum

The object of the medical curriculum is to provide a training for medical men,

the majority of whom will spend their lives in the practice of medicine and surgery. Training in the diagnosis and treatment of the sick is provided by the practice of a general hospital, and the problem of the medical curriculum is to provide the best possible foundation for clinical work. A generous education in the natural sciences, and especially in one or more of the branches of biology, is the best possible preparation for the study of medicine. Men well grounded in the theories and methods of the natural sciences make the best recruits for the medical profession, and may be expected to provide pioneers, research workers, and teachers. There will always be a need for men of this type, and always work for them to do. But the bare minimum of professional knowledge and experience which every student must acquire before he passes a qualifying examination has increased and is increasing, and if the medical student is ambitious to reach the standard of an honors degree in pure science—the same standard as is required of a non-medical student of science who is unhampered by concurrent professional examinations—and satisfy all the requirements of the medical curriculum, he must be prepared for very strenuous work and a considerable addition to his years of training.—H. R. DEAN: *British Med. J.*, Sept. 6, 1930.

Relation of Preclinical to Clinical Studies

In any consideration of the laboratory work which the student does at the medical school, the arrangement of the laboratory subjects and their relation to clinical work in the time-table might receive some consideration. Is it essential or even really advisable to insist on the completion of the study of anatomy, physiology, and biochemistry before clinical work is begun? The student would take a far greater interest in anatomy and physiology if he had come in con-

act with patients in a hospital, and was in a position to appreciate for himself the importance and significance of these sciences. How much of the student's laboratory work should be preliminary to his admission to the wards? The correlation of medicine and surgery with anatomy, physiology, and pathology during the whole or greater part of the five years of the curriculum would offer great opportunities to both teacher and student. The advice "Study this carefully and you will be rewarded by finding the knowledge very useful to you in a few years" is part of the regular stock-in-trade of the laboratory teacher in the faculty of medicine. There seems no valid reason why the study of morbid anatomy should be postponed until the study of normal anatomy has been certified as complete by examination. Some reference to disease, to pathology, and to medicine is essential to an understanding of physiology. The observation of changes produced by disease should be supplemented by the study of lesions produced by experiment. Could there be anything but gain if the teaching of normal physiology to medical students was continually illustrated by examples of abnormal structure and function shown in the wards and post-mortem room of a hospital? The most elementary course on metabolism, on biochemistry, or on physiological chemistry must be illustrated by the consideration of diseases of the ductless glands. Would the student take less interest in biochemistry if he was allowed to see living examples of deficiency diseases, or to obtain and examine for himself specimens from a case of diabetes? The opportunity for co-ordination of the subjects of the curriculum is great, and the need for active co-operation between teachers seems evident.—H. R. DEAN: *British Med. J.*, Sept. 6, 1930.

a proper equivalent for the three or four or more years of laboratory work which he must do before he enters the wards? For the majority, for those who have neither the time, nor the ability, nor the wish to take full advantage of the advanced courses in natural science which universities provide, it would be a great advantage if the necessary minimum of compulsory preclinical laboratory work were substantially reduced. A reduction would involve a most careful consideration of the kind and amount of knowledge and experience which every student must possess before he is allowed to begin clinical work.

That the preclinical laboratory work of the curriculum is in urgent need of consideration and revision few will doubt. Definite expressions of opinion are needed from all responsible for teaching medical students and especially from those who teach during the period of hospital practice. From these opinions information could be obtained as to what might be included with advantage and what might be excluded from the curriculum without loss. In all probability the period of preliminary laboratory study might be reduced. Even if no reduction of time should be found possible, it seems almost certain that the time might be better spent, and the training in the laboratory better adapted to its object—the preparation of the medical student for the practice of medicine. The day has passed when the student could be allowed to browse at leisure for a few years on the pastures of pure science before he was harnessed in earnest to the chariot of Aesculapius. Above all there is need for co-operation between the teachers of the various subjects, and correlation of the subjects taught, so that the relation of the various subjects to one another should be obvious to the student. All the courses contained in the curriculum should be co-ordinated to form an ordered sequence. At present the student is required to attend classes

Reduction of Preclinical Study

Does the student get full value or even

and pass examinations in a number of apparently unrelated branches of science; he is given to understand that the assorted knowledge which he gains will be of value to him later on. In any case much of the value of the training is lost from the hurry, strain, and stress involved by the long series of examinations by which the student is harassed from an early age, and which rob him of much of the pleasure and profit which he might derive from a more leisureed study of the natural sciences. The medical student is examined far too often, and in consequence more of his time is spent cramming than in profitable study. One great advantage which would result from a shortening of the period of preliminary laboratory study would be an increase in the time available for general education. It is useless and almost scandalous to prescribe an age limit below which boys may not be registered as medical students, and at the same time make the passing of examinations in elementary science a necessary preliminary to registration so that schoolboys are in fact required or advised to begin professional study one or two years before they may be registered as students. It would be a distinct gain to medical education if no incentive was offered to school-boys to work for professional examinations before their last year at school.—H. R. DEAN: *British Med. J.*, Sept. 6, 1930.

Correlation in Medical Curriculum

The medical curriculum has been regarded as divided into three periods or strata, after the fashion of a jam sandwich cake—the elementary science layer, the physiology and anatomy layer, and the hospital practice layer. There is chemistry in each layer. Now it is well known that the integrity of a cake must be destroyed by any method of section. But if the pieces are kept well together the appearance of a complete cake may be preserved. Difficulty in keeping the

pieces together must arise when cutting in two planes is allowed. If the chemist or biochemist is permitted to cut out a slice, like a slice of plum cake, which contains the chemistry of all the three layers, the layers are going to suffer. It is difficult to teach physiology or pathology or medicine unless the chemical aspects of these subjects are treated as an integral part of these subjects. A man should not teach pathologic chemistry unless he has a good knowledge of chemistry; it is equally true that he should have a good knowledge of pathology. The example of chemistry in its relation to biological subjects is instructive to the student of the medical curriculum, and illustrates the difficulties of the correlation of subjects. The grand canyon of the curriculum separates anatomy and physiology from surgery and medicine, a vast gulf across which it has been the pathologist's ambition to build a bridge. The gap between the laboratory and the wards is still big, even though, today, willing hands are stretched out to help the student over. The last years are devoted almost exclusively to clinical instruction of the most practical kind. The student is apt to regard all examinations up to and including those in anatomy and physiology as a series of preliminary tests which must be passed before he is allowed to begin real work in a hospital. He has spent two years, perhaps, in the laboratories at a public school, and two years at a medical school; does he bring with him to the wards the equivalent of four years' experience and training in natural science? Attempts are made, it is true, to enable the student to make use of such knowledge as he may bring with him. Classes are given in some medical schools during the clinical years in applied physiology and anatomy. The medical and surgical units are essays in the combination of laboratory with clinical methods.—H. R. DEAN: *British Med. J.*, Sept. 6, 1930.

Courses for Medical Training

Medical schools should offer two consecutive courses in medical training, each with its distinctive degree, and legal cognizance of these degrees should be taken, with definite legal limitations of the type of practice which can be engaged in by the holders of each degree:

1. The Doctor of Medicine.—The requirements for the attainment of this degree should be: (a) Thorough training in the fundamental subjects, with intensive correlation between these and the clinical subjects; (b) thorough training in internal medicine, in obstetrics, in minor and emergency surgery and gynecology, in syphilology, in pediatrics, and in major surgical and gynecologic diagnosis only; (c) a very carefully planned survey of dermatology, neuro-psychiatry, ophthalmology, and so forth, designed for the needs of the general practitioner; (d) an internship consisting of six months of internal medicine, two months in minor surgery, and four months in obstetrics, with ample opportunity to follow and study the management of the special (surgical, etc.) phases of each case.

This degree should be prerequisite to:

2. The training for the degree of Master of Surgery, Neuropsychiatry, Gynecology, Obstetrics, etc. The requirements for attaining such a degree would be: (a) From two to three years as resident in the given specialty, coincident with (b) intensive review of the correlated fundamental subjects; (c) intensive study of the clinical application of the fundamental subjects; (d) intensive training in the minutiae of diagnosis and treatment (including operative technic) of the given special field; and (e) training in medical reading, writing and research methods.—W. R. COOKE: *Texas State J. M.*, p. 379, Sept., 1930.

Teaching of Clinical Subjects in Final Year

All engaged in teaching must feel that

a very important stage in the evolution of medical education has been reached. The medical curriculum has undergone no important modification since 1892. Then, as now, saturation point had been reached. The remedy decided upon in 1892 was the addition of one whole year, and the justification for this radical change was the interests of clinical teaching. It was to be a clinical year. The step was necessary, and the results in the main have proved satisfactory, but there has always been a slight feeling of disappointment that this clinical year, launched with such hopefulness, has never quite come up to expectations. Again we are faced with the same problem, and again a lengthening of the curriculum has been suggested, and to some appears inevitable. But before adopting such a policy, so simple to effect but so serious for the undergraduate, we must be satisfied that it is absolutely necessary, and that there is no possible alternative.

It is conceivable that modifications in the curriculum might in great part get over the difficulty. The trend of medical education still continues along certain simple lines. As knowledge advances—and the advances in many departments in the last decade have been considerable—the policy has been to increase instruction in the subject or subjects of that department, with the result that the undergraduate of today finds it well-nigh impossible to digest the mental food provided and forced upon him. Every department is better organized and equipped than it was even ten years ago, but there has not been sufficient concerted effort to co-ordinate the different departments and reduce overlapping to a minimum, with the object of effecting an economy in teaching. Another adjustment is necessary. We are attempting too much in the five years of the curriculum. A not inconsiderable portion of the time of the undergraduate's training is occupied in receiving instruction in subjects which, with the developments

that have taken place in the science and art of medicine, now belong essentially to the post-graduate period of medical education. The policy should be to develop and extend post-graduate study. If need be, make it compulsory for certain subjects, as has been done already in the case of public health, and has been accepted as indispensable for all who intend to practice surgery and the surgical specialties.—J. M. MUNRO KERR: *Glasgow Med. J.*, Sept., 1930.

The Clinical Curriculum

In the University of Glasgow a beginning was made to modify the curriculum. Two years ago a far-reaching innovation was made in the teaching of the clinical subjects of the final year. With the object of enabling the medical student of the final year to derive full benefit from the facilities existing for practical instruction, the year was divided into three intensive terms of study devoted to medicine, surgery, and obstetrics. Teachers and students alike are convinced that the new presents many advantages over the old arrangement. For three months the student is in the atmosphere of these subjects. Receiving as he does so much instruction, theoretical, clinical, and practical, and discussing freely with his fellows the problems daily presented, his interest is roused and maintained to a degree quite impossible under the old conditions. From 9:15 until 11 o'clock the students of the obstetric group receive instruction in medical and surgical pediatrics in the hospital. At 11:30 they come to the maternity hospital, where, after a short lecture of half an hour, they are divided into sections and sub-sections. Some go to the ante-natal wards; others to the labor room, post-natal wards, or pathologic and biochemical departments. At one o'clock there is an hour's interval for lunch. The afternoon is devoted to gynecology in the hospitals, to attendance on the outdoor ante-natal clinic and

to case-taking. Later in the term groups of two are given cases to attend in the labor room. After this training they are permitted to attend patients in the district, their work being supervised by the members of the staff responsible for the domiciliary service of the hospital. During this period they live in the residence attached to the hospital. On certain evenings, from 7:30 onward, a number attend the hospital and have an opportunity of seeing the emergency practice. They are under the charge of an obstetric tutor, who, should no cases be admitted, gives them tutorial teaching, goes over their reports, and otherwise interests them in the subject. At the end of each month an evening is devoted to a general review of the work done. At such meetings particular attention is directed to the fatal cases and to cases which have developed pyrexia. Cases which presented special difficulties are also considered very carefully, and the treatment employed is discussed by the staff in an informal manner. By this method of teaching, but only if the clinical material is adequate, the undergraduate gains a wide clinical experience in three months. But it must be clearly understood that he cannot be given any practical experience of operative obstetrics. An attempt is made with the help of the "phantom" to give him some training in this work, but he cannot possibly be permitted to operate on patients—J. M. MUNRO KERR: *Glasgow Med. J.*, Sept., 1930.

Midwifery and Gynecology

In the Report of the Departmental Committee on Maternal Mortality and Morbidity certain recommendations were made. Among the more important were:

1. Every student should . . . devote his whole time to hospital practice in midwifery (including infant hygiene) and gynecology for a period of six months, during not less than two of which he should reside in the maternity hospital or

in specially provided quarters adjacent thereto, and perform the duties of an intern student in a lying-in hospital or ward.

2. . . . The instruction during this six months should be so arranged that at least two-thirds of the time is allotted to midwifery (including ante-natal care and infant hygiene), and the remaining one-third to gynecology.

3. He should attend and personally deliver during the period not less than 30 cases under adequate supervision. A certain number should be intern or district cases, but these should not be taken until the student has delivered at least five cases in the lying-in hospital or ward to the satisfaction of his teacher—J. M. MUNRO KERR: *Glasgow Med. J.*, Sept., 1930.

The Obstetric Practitioner

There are only two ways a young graduate, even with the extended obstetric training suggested, can become a safe obstetric practitioner—

(a) By gaining experience at the expense of the patients he attends, and profiting by his mistakes.

(b) By postgraduate instruction, study, and practice under an obstetric surgeon who gradually trains him to deal with, first, the minor, and, later, the major difficulties of obstetric surgery. Surely the time is long past when the former method can be permitted; yet the result of adopting the recommendations of the Department Committee will be to perpetuate it, although admittedly in a lesser degree.

Postgraduate training is the only method by which a safe accoucheur can be produced, and let us admit the fact. The public is deeply interested in the subject of maternal and infantile mortality and morbidity. It has been told that matters are far from satisfactory, and it trusts the profession to correct these conditions. It is unfair, therefore, to let it believe that a more extended undergraduate

training is the method of solving that part of the problem concerned more especially with providing women in labor with adequately trained medical practitioners.

There is another and very important objection to extended obstetric training. It will add to the difficulties of maintaining the curriculum at five years. It must be borne in mind that a large number of undergraduates have no intention of practising obstetrics. Are we not losing to a certain extent our sense of proportion in demanding of all undergraduates an extended training in a comparatively small and very specialized subject which, like surgery, can only be learned after graduation? It would be interesting to sum up the hours of training a six-months whole-time attendance implies and compare the total with the hours devoted to such subjects as physiology, pathology, biochemistry, pure medicine, medical ophthalmology, many of which are of greater importance to the general practitioner than obstetrics.—J. M. MUNRO KERR: *Glasgow Med. J.*, Sept., 1930.

Intensive Courses in Final Year

There is one other alteration in the curriculum which, if introduced, would have a most beneficial effect. It presupposes a continuance of the existing scheme of intensive courses in the final year. The proposal is that, in place of the present final examination in medicine, surgery, and obstetrics at the end of the curriculum, the examination should be subdivided as follows: At the end of the fourth year the student should be given a written and oral examination in medicine and surgery. After each term of intensive study he should be subjected to a more exhaustive clinical examination than pertains at present in the particular subject of the term, viz., medicine, surgery, or obstetrics. As regards obstetrics, in addition to the final examination he should be required to take a written examination. One great advantage of this

arrangement is that it would ensure that the fifth year is actually a clinical year. It would have the effect of breaking down the pernicious habit of book-cramming. Aware that a very searching clinical examination was ahead, the student would be more interested in the work of the term. But it would have this further advantage: it would give elasticity to the length of the curriculum without definitely defining its duration beyond the present irreducible minimum of five years. The able and industrious students (80 to 60 per cent standard) would find no great difficulty in qualifying in five years. But those whose ability or industry or both (58 to 48 per cent standard) resulted in their not obtaining a pass mark, would be compelled to undergo another term of study in the particular subject or subjects in which they failed.—J. M. MUNRO KERR: *Glasgow Med. J.*, Sept., 1930.

Exactness of Observation and Diagnosis Aim of Undergraduate Teaching

It is most desirable that the curriculum should not be increased in length and that its breadth should be carefully controlled: it is tending rather to obesity. We must not attempt, as some countries are doing, to train experts in medicine, surgery, obstetrics, and the specialties. This is impossible of attainment even although the curriculum were extended to nine years, as it is in Sweden. With the foundations well laid, as they are at present, in biology, chemistry, anatomy (modified), physiology, pathology, and biochemistry, exactness in clinical observation and diagnosis is the first requisite in the training of the undergraduate in medicine. He must be made familiar with the proved methods of treatment, both medical and surgical; but he cannot possibly be trained in subjects or sections of subjects in which craftsmanship is essential. These he can only learn

after graduation. A very strong case can be presented in support of a year of "intern" service after graduation being made compulsory. The difficulty in the past has been lack of hospital accommodation and facilities for the large number of students who qualify annually; but this difficulty will disappear, if it has not already done so, as institutional treatment of insured persons increases. With a year of intern service we will be back, and in an improved form, to the old apprenticeship system, which so satisfactorily served its day and generation.—J. M. MUNRO KERR: *Glasgow Med. J.*, Sept., 1930.

Committee on Physical Therapy

The report on the inadequate physical therapy teaching in medical colleges of the state of New York is noted and this committee feels that the Medical Society of the State of New York should recommend that more instructions be given to the undergraduates in the different medical schools of the state, also they should suggest the introduction of a post-graduate course in physical therapy for which course physicians only would be eligible, it is felt that in this way more physicians will be induced to study physical therapy, thereby increasing their efficiency and decreasing the field of activity for the nonmedical physiotherapist.—(N. Y. State J. M., July 1, 1930.)

Medical Education

Educational requirements before the study of medicine can be begun should be very carefully prescribed and enforced, but an arbitrary state regulation that everyone desiring to obtain a license to practice regular medicine and surgery must have studied four years in some reputable school is a fallacious requirement. The requirement should be to prescribe the number of hours that the individual must actively spend in med-

ical studies, which is not at all necessarily the number of hours scheduled to be spent in each school.

I believe that the medical course for the degree of M. D. should be three years instead of four. There should not be long vacations. The curriculum should be progressive for three full years, and the actual time spent would equal the four years as at present utilized, and a year of expense without extra advantage would be saved.

These three years should represent more or less concentrated teaching and instruction and not such a waste of time in laboratories as is at present the vogue. Instruction in the specialties, except incidentally, should be postponed to graduate courses after the degree of M. D. has been obtained.

During the first two years of the three year course for the degree of M. D. the time spent by the student in the laboratories of anatomy, histology, physiology, physiological chemistry, pharmacology, toxicology, pathology and bacteriology should be sufficient for his instruction in all of these subjects, but his laboratory time must not be wasted. The instruction should be more concentrated than at present. During his third year his laboratory work should be entirely devoted to what is necessary for his instruction in the examinations that are required for a clinical diagnosis. He should not spend any time in research work. More time in the medical school curriculum should be given to teaching internal medicine and to taking histories. Not enough time is spent in teaching the medical student common sense or what may be termed "horse sense."

He should be taught to sense what examinations are absolutely necessary in the case which he is to study, and be chided if he neglects an important necessary examination. The student is also

taught to depend too much upon clinical laboratory investigations, and the laboratory men become very much impressed with their own importance and instead of simply transmitting to the clinical investigator the laboratory findings they offer the diagnosis. Not enough time is given in the medical school curriculum to instruction in medicinal therapy.

A very weak point in medical school teaching today is the subject of clinical and practical endocrinology. The importance of the endocrine glands for normal physiology and health must be recognized. Laboratory investigations can demonstrate only the symptoms of total extirpation or of excessive doses of some gland. It is not possible to demonstrate by experiments on animals the minor disturbances of these glands, whether hypersecretion or hyposecretion. More time must be spent by clinical teachers in describing the symptoms of patients who have these minor defects.—O. T. OSORNE (*Med. J. & Record*, Oct. 1, 1930.)

Clinical Instruction at Tulane

It is planned at Tulane University School of Medicine that each student shall spend a period of time in one department and be transferred to another department and then another, ultimately giving him a period of assignment in each of the important clinical divisions.

It is intended that each clinical department shall be more or less complete within itself. Students and faculty will learn by practice and experience to make complete examinations of their patients in any department, with the possible exception of certain very highly specialized departments. We are going somewhat against the tendency in recent years toward highly specialized practice, and plan to teach the student to rely on his own resources and facilities, so far as possible.—C. C. BASS (*Southern Med. J.*, Oct. 1930.)

Book Reviews

A Practical Medical Dictionary

By Thomas L. Stedman, A.M., M.D.
11th Ed. William Wood and Company.
1930. Price, \$7.50.

The preface to this edition is given over in large part to expressions of satisfaction by the Editor in having nearly accomplished his mission, after 22 years of effort, of saving the language of medicine from the degradation which so long threatened it. He has always fought for purification of medical orthography. Accordingly, this dictionary has always differed from other medical dictionaries. And its friends have been numerous. It has not only survived, but it has been popular among those who stood for correct spelling rather than spelling reform. Constantly added material has notably increased its size and its usefulness. It has always been a reliable dictionary, hence its many friends. It has kept up with the rapid progress of medicine and it has always been right. The present edition contains many new words and illustrations, especially in the fields of bacteriology and roentgenology. It completely meets the needs of student and practitioner as a work of reference.

Physiological Chemistry

By Albert P. Mathews. Ed. 5. William Wood and Company, New York.
1930. Price, \$7.00.

The name of the author of this work is sufficient to commend it to biochemists as a valuable textbook in this field. Although in general, few changes in text have been made, much new matter has been added; for instances, on vitamins, internal secretions, carbohydrates, porphyrins, bile pigments and bile salts. The chapter on enzymes has been brought up to date. The work is replete with excellent tables and charts.

Rose and Carless Manual of Surgery

By Cecil P. G. Wakeley and John B. Hunter. Ed. 13. William Wood and Company, New York. 1930. Price, \$11.

For thirty-two years this work has been a favorite text book for many thousands of medical students in Great Britain as well as in the United States. True, it has grown larger—much larger, since the first edition appeared in 1898. The reviewer was one of those who made free use of that edition, and the work has kept the faith in all succeeding editions. The senior author is dead, and Mr. Carless has been succeeded by Mr. Wakeley in the present edition, but the book has not lost any of its good features through these changes in authorship. There is much evidence of extensive revisions and additions. Even the physical appearance of the book has been altered. There are many new illustrations. Illustrations have always been a valuable feature of this work. No doubt it will meet with as much favor among medical students as it always has, and deservedly so. There is much to commend it.

A Textbook of Hygiene

By J. R. Currie. William Wood and Company, New York. 1930. Price, \$8.50.

Although students in English medical schools will find this work of greater value than those in the medical schools of the United States because of the numerous references to English laws and regulations, much of value will be found therein—for, after all, hygiene and sanitation are the same the world over. The book is written especially for medical students and candidates for degrees in public health and sanitary science. The author is well known as an authority in this field.

The opening chapters are concerned with environmental hygiene, now regarded as being of the first order of importance in the treatment of many diseases. On the whole, the book will prove itself a not inconsiderable aid in imparting valuable information in the whole dominion of public health.

A System of Clinical Medicine

By Thomas D. Savill. Ed. 8. William Wood and Company, New York. 1930. Price, \$10.

A glance at the table of contents of this deservedly popular text book shows that the work has been brought up to

date by the addition of chapters on the most recent discoveries in medicine. It will be remembered that the various diseases are approached from the standpoint of symptoms and physical signs. Clinical diagnosis is made less difficult. The extensive system of cross references is a most valuable help, one which will be appreciated by every student of medicine. The clinical history of diseases, their etiology, pathology and treatment, is not neglected. The book is exceedingly practical and will commend itself to every medical student as he necessarily must approach diseases from their clinical aspect.

✓ ✓ ✓ ✓ ✓ ✓

Next Place of Meeting

NEW ORLEANS

1 9 3 1

INDEX
for Volume V, 1930.

A

Abstracts of current literature, (Jan.) 59; (Mar.) 123; (May) 175; (July) 254; (Sept.) 310; (Nov.) 371.
 Allergy, teaching of diseases due to (Balyeat, (Sept.) 276.
 Anatomy (Nov.) 373.
 orthodox and heterodox, in relation to surgery (May) 188.
 Apparatus, new, research microscope for scientist (Mar.) 125.
 Applicants, academic achievements of multiple, (Miller), (Jan.) 9; (Begg), (Jan.) 13; (Schwitala), (Jan.) 16.

B

Babbott, F. L., Jr.: Educational role of the modern hospital (Sept.) 289.
 Babkin, B. P.: Experimental method in modern medicine (Sept.) 271.
 Balyeat, R. M.: Survey of the medical schools of the United States relative to the teaching of diseases due to allergy (Sept.) 276.
 Bardeen, C. R.: Extension work in medical education (July) 193.
 Begg, A. S.: Scholastic achievements of multiple applicants (Jan.) 13.
 Bier, August, views of (Nov.) 371.
 Bierring, W. L.: Correlation of qualifying examinations (Sept.) 257.
 Board, conjoint examining, for Canada (Jan.) 39.
 Boards, medical, are they keeping pace with medical education (Nov.) 362.
 state, and medical schools (Rypins), (Jan.) 27.
 Book Reviews, (Jan.) 63; (Mar.) 126; (May) 189; (July) 256; (Sept.) 318; (Nov.) 384.
 Boyd, L. J.: Teaching of therapeutics (Jan.) 35.
 Burma, medical education in (Nov.) 371.

C

Canada, Conjoint examining board for (Jan.) 39.
 Catholic Hospital Association (Nov.) 362.
 Chemistry (Nov.) 374.
 premedical requirements in (Clarke) (May) 134.
 Clarke, H. F.: Premedical requirements in chemistry (May) 134.
 Commission on Medical Education (May) 160.
 Committee on Medical Education and Pedagogics, report of (July) 236.
 on Physical therapy (Nov.) 382.
 on the Definition of "Graduate" and "Post-graduate" Medical Study, report of (July) 237.
 for 1929-1930 (Jan.) 42.
 for 1930-1931 (Nov.) 357.
 Conel, J. LeRoy: Medical Education in Norway (Nov.) 327.
 Congress on medical education (May) 159.
 Cooperation between the college and the medical school (Hawkes), (May) 129.
 very helpful (Mar.) 111.

Credentials, entrance, presented by freshmen admitted in 1929, analysis of (Zapffe), (July) 231.
 Cuba, medical education in (May) 185.
 Curriculum, medical, clinical (Nov.) 380.
 medical, correlation in (Nov.) 378.
 medical, intensive courses in final year (Nov.) 381.
 medical, length of (May) 186.
 medical, object of (Nov.) 376.
 medical, reduction of preclinical study (Nov.) 377.
 medical, relation of preclinical to clinical studies (Nov.) 376.
 medical, teaching of clinical subjects in final year (Nov.) 379.
 premedical evolution (Mar.) 123.
 premedical, fallacies of (May) 181.
 relieving the (Jan.) 59.

D

Darrach, W.: A great adventure (Sept.) 267.
 Presidential address (Nov.) 323.
 Dawson, W. T.: Medical Education in England (July) 222.
 Denver meeting (Sept.) 295.
 meeting (Nov.) 361.
 de Tarnowsky, G.: Language culture in the teaching of medicine (Sept.) 288.

E

Editorials (Jan.) 41; (Mar.) 111; (May) 159; (July) 241; (Sept.) 295; (Nov.) 361.
 Education, medical, a liaison of organized effort (Jan.) 26.
 medical, are medical boards keeping pace with (Nov.) 362.
 medical, congress on (May) 159.
 medical, cost of in Great Britain (May) 179.
 medical, extension work in (Bardeen), (July) 193.
 medical, in Burma (Nov.) 371.
 medical, in Cuba (May) 185.
 medical, in England (Dawson), (July) 222.
 medical, in Norway (Conel), (Nov.) 327.
 medical, in Ukraine (Sept.) 317.
 medical, present trends in (Mar.) 111.
 medical, some tenets of (Jan.) 40.
 premedical, some aspects of (Smeaton), (May) 146.
 professional (Mar.) 124.
 shortcoming of early (May) 175.
 England, medical education in (Dawson), (July) 222.
 Environment, teaching medical students importance of (Jan.) 62.
 Examinations, correlation of qualifying (Bierring), (Sept.) 257.
 licensing, results of state board, (July) 241.

F

Federation of state medical boards, constitutional amendment adopted by (Mar.) 89.
 Ford, G. S.: An experiment in medical graduate work (July) 200.
 Fractures, report on teaching of (July) 240.

G

General Medical Council, report on visit to, May 26 to June 1, 1930 (Rodman), (Nov.) 346.

Graduate, medical, greater versatility of (May) 185.

medical instruction, postmortem examinations in (Robertson), (July) 216.

medical work, an experiment in (Ford), (July) 200.

Gynecology and midwifery (Nov.) 380.

teaching of postgraduate (May) 187.

H

Hassin, Geo. B.: System in the presentation of subject matter (Nov.) 357.

Hawkes, H. E.: Cooperation between the college and the medical school (May) 129.

Hospital, affiliated with medical schools, facilities required for teaching (Sept.) 314.

modern, educational role of (Babbott), (Sept.) 289.

I

Intern training (May) 161.

J

Journal, the (Jan.) 41.

K

Kober, G. M.: Reminiscences (May) 160.

Krusen, F. H.: Strip film photography as an aid to medical teaching (Sept.) 262.

teaching of physical therapeutics to undergraduate medical students (May) 152.

L

Language culture in the teaching of medicine (de Tarnowsky), (Sept.) 288.

modern foreign, preparation for medical school use (Williams), (May) 138.

Loan fund, Nebraska medical student (Sept.) 316.

M

Matriculation, report on applications for, in schools of medicine of the United States and Canada, 1929-1930 (Myers), (Mar.) 65.

Medicine, an ideal education for (Mar.) 111.

and surgery (Nov.) 375.

clinical, reputed conflict between laboratories and (July) 254.

forensic (Nov.) 375.

modern, experimental method in (Babkin), (Sept.) 27.

teaching, language culture in (de Tarnowsky), (Sept.) 288.

teaching in clinic, statistical method as an adjunct to (Wyckoff), (July) 200.

Midwifery and gynecology (Nov.) 380.

teaching of (May) 187.

Miller, A. M.: Academic achievements of multiple applicants (Jan.) 9.

Moss, F. A.: Scholastic aptitude tests for medical students (Mar.) 90.

Myers, B. D.: Address of president (Jan.) 1.

report on applications for matriculation in schools of medicine of the United States and Canada, 1929-1930 (Mar.) 65.

N

Nebraska medical student loan fund (Sept.) 316.

News, college, (Jan.) 43; (Mar.) 112; (May) 162; (July) 242; (Sept.) 296; (Nov.) 363.

deaths, (Jan.) 58; (Mar.) 122; (May) 174; (July) 253; (Sept.) 309; (Nov.) 370.

general, (Mar.) 116; (May) 168; (July) 248; (Sept.) 303; (Nov.) 369.

personal, (Jan.) 54; (Mar.) 120; (May) 171; (July) 252; (Sept.) 306; (Nov.) 367.

New York, amendment to medical education law (July) 235.

New York Hospital-Cornell Medical College Association (July) 255.

New York meeting (Jan.) 41.

Norway, medical education in (Comel), (Nov.) 327.

Noyes, Guy L. (Mar.) 122.

O

Obstetrics, clinical teaching of (Sept.) 314.

fundamental principles of teaching (Sept.) 313.

laboratory teaching in (July) 254.

teaching in Sweden (Sept.) 315.

Officers and committees for 1930-1931 (Nov.) 362.

for 1929-1930 (Jan.) 42.

P

Pathology (Nov.) 374.

educational influence of, on house officers in a teaching hospital (Sept.) 312.

Pediatrics, too little instruction in (May) 184.

Pharmacology and medical schools (Nov.) 372.

Physical therapy, committee on (Nov.) 382.

Physiology (Nov.) 373.

Politics vs. Education (Sept.) 295.

Postmortem examinations in graduate medical instruction (Robertson), (July) 200.

Practitioner, obstetric (Nov.) 381.

Q

Questions, pertinent (Jan.) 42.

R

Rappleye, W. C.: Some medical problems ahead (Sept.) 281.

Relation of preclinical to clinical studies (Nov.) 376.

Requirements, premedical in chemistry (Clarke), (May) 134.

Robertson, H. E.: Postmortem examinations in graduate medical instruction (July) 216.

Rodman, J. S.: Report on visit to meeting of the General Medical Council, London, May 26 to June 1, 1930 (Nov.) 346.

Roentgen ray department of a teaching hospital (July) 254.

Rypins, H.: State boards and medical schools (Jan.) 27.

S

Schools, medical, and state boards (Rypins), (Jan.) 27.

Schwitalla, A. M.: Scholastic achievements of multiple applicants (Jan.) 16.

Sciences, natural, training in (Nov.) 376.
 Smeaton, W. G.: Some aspects of premedical education (May) 146.
 Specialism narrows outlook of family doctor (Mar.) 123.
 Strip film photography as an aid in medical teaching (Krusen), (Sept.) 262.
 Student, medical, characteristics of (May) 175.
 medical, the desirable (Jan.) 61.
 medical, what constitutes a desirable (Jan.) 59.
 Students, medical, colored, provision for training (July) 255.
 medical, teaching importance of environment (Jan.) 62.
 Study, medical, groundwork of (May) 180.
 professional, and examination (May) 179.
 Surgeon, training of the (May) 183.
 Surgery, academic career in (May) 188.
 and medicine (Nov.) 375.
 and medicine, relation between (May) 185.
 graduate teaching of (May) 176.
 place of in curriculum (May) 180.
 System in the presentation of subject matter (Hassin), (Nov.) 357.

T

Teaching, full time system of (Sept.) 310.
 medical, strip film photography as an aid in (Krusen), (Sept.) 262.

undergraduate, exactness of observation and diagnosis aim of undergraduate teaching (Nov.) 382.

Teacher, full time medical (May) 177.
 medical, what constitutes a desirable (May) 181.

Tests, scholastic aptitude, for medical students (Moss), (Mar.) 90.

Therapeutics, physical, teaching of to undergraduate medical students (Krusen), (May) 152.
 teaching (Boyd), (Jan.) 35.

Training, medical, courses for (Nov.) 379.
 Tuberculosis, teaching of (May) 182.

W

Ukraine, medical education in (Sept.) 317.
 Williams, H. B.: Modern foreign language preparation for medical school use (May) 138.

Wyckoff, J.: Statistical method as an aid to the teaching of medicine in the clinic (July) 210.

Z

Zapffe, F. C.: Analysis of entrance credentials presented by freshmen admitted in 1938 (July) 231.

ation and
teaching

e (May)

students

o und
(May)

379.

317.

language

(May)

adjustm

the clinic

dentists
in 1929